Ride Tests Seek TOFC Loading Data

November 23, 1959

RAILWAY AGE *weekly*

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How GN gives 1,000 box cars ↑ a new look

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BEAVER FALLS PA

Shipping The Atom

p. 20

60 cents A Simmons-Boardman TIME-SAVER Publication

Nalco "MOLY" Dry Flange Lubricant in New, Tough Form

High Impact Strength, Resilience Add Life; Make Handling Easier

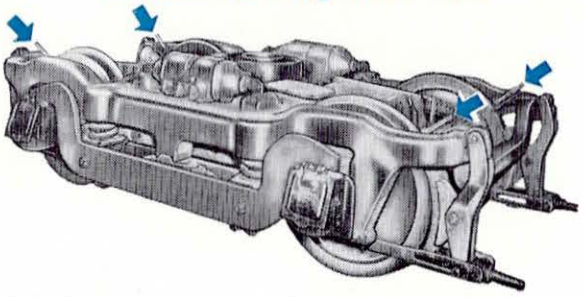
Changes in form and processing make a good thing even better for extending locomotive wheel life with Nalco "Moly" Dry Lubricant. A new paper wrap is bonded to the molybdenum lubricant, which is now catalytically-processed for added strength and resilience. The sticks are also foil-wrapped, and the whole protective package keeps on protecting as the stick is used.

How Does It Work?

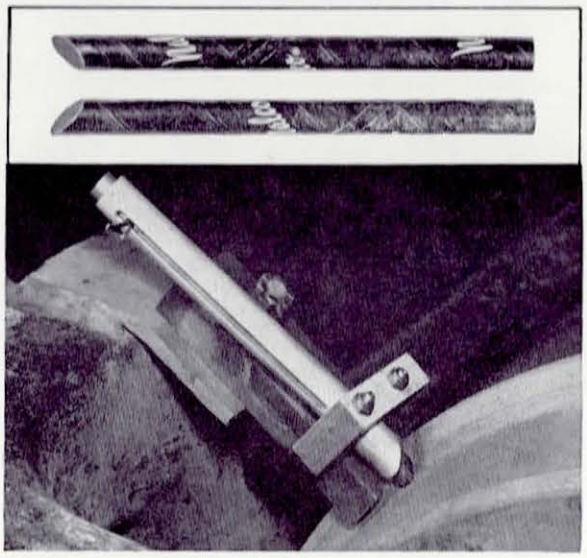
Dry, specially-processed Nalco molybdenum disulfide stick puts a thin film of lubricant on wheel flanges which is capable of withstanding tremendous temperatures and pressures without breakdown or loss of lubricating properties. Being dry, it does not pick up dust and grit that form abrasive compounds, *nor will it rub off*. Applied to locomotive wheel flanges from Nalco holders mounted permanently on the truck frame, each stick lubricates a single wheel at the flange—keeps lubricant off the tread.

"Moly" Sticks are packaged to provide excellent protection in storage and handling. Each stick is surrounded by resilient vermiculite in a sturdy corrugated paper box.

Formula for Long Wheel Life



Nalco "Moly" Sticks in permanently-mounted, easily-accessible Nalco Flange Lubricators give positive, clean, flange lubrication that assures longer wheel life and lower maintenance costs.



***Top*—New "Moly" Sticks are catalytically-processed and protectively wrapped to give extra toughness and resilience.**
***Above*—simple, foolproof Nalco Flange Lubricator feeds proper amount of lubricant direct to wheel flange without waste or dirt pick-up.**

Comparative Tests Prove "Moly" Best Every Time

"Moly" Sticks have consistently demonstrated that they will far outlast equivalent-sized graphite or grease type stick lubricants. Figured on costs per thousand miles of locomotive travel, Nalco "Moly" is considerably more economical than either grease or graphite—and wheel life is extended from 30% to a whopping 300%.

Who Installs "Moly" Lubricants?

Nalco Flange Lubricators are usually installed by regular engine house personnel; and "Moly" Sticks are quick and easy to place in the lubricators as needed. Because "Moly" Sticks have long, predictable life, stick replacements can be scheduled with regular locomotive inspections and maintenance. *You* can take the first big step toward installing "Moly" for longer locomotive wheel life by writing for details—or give your Nalco Representative a call now.

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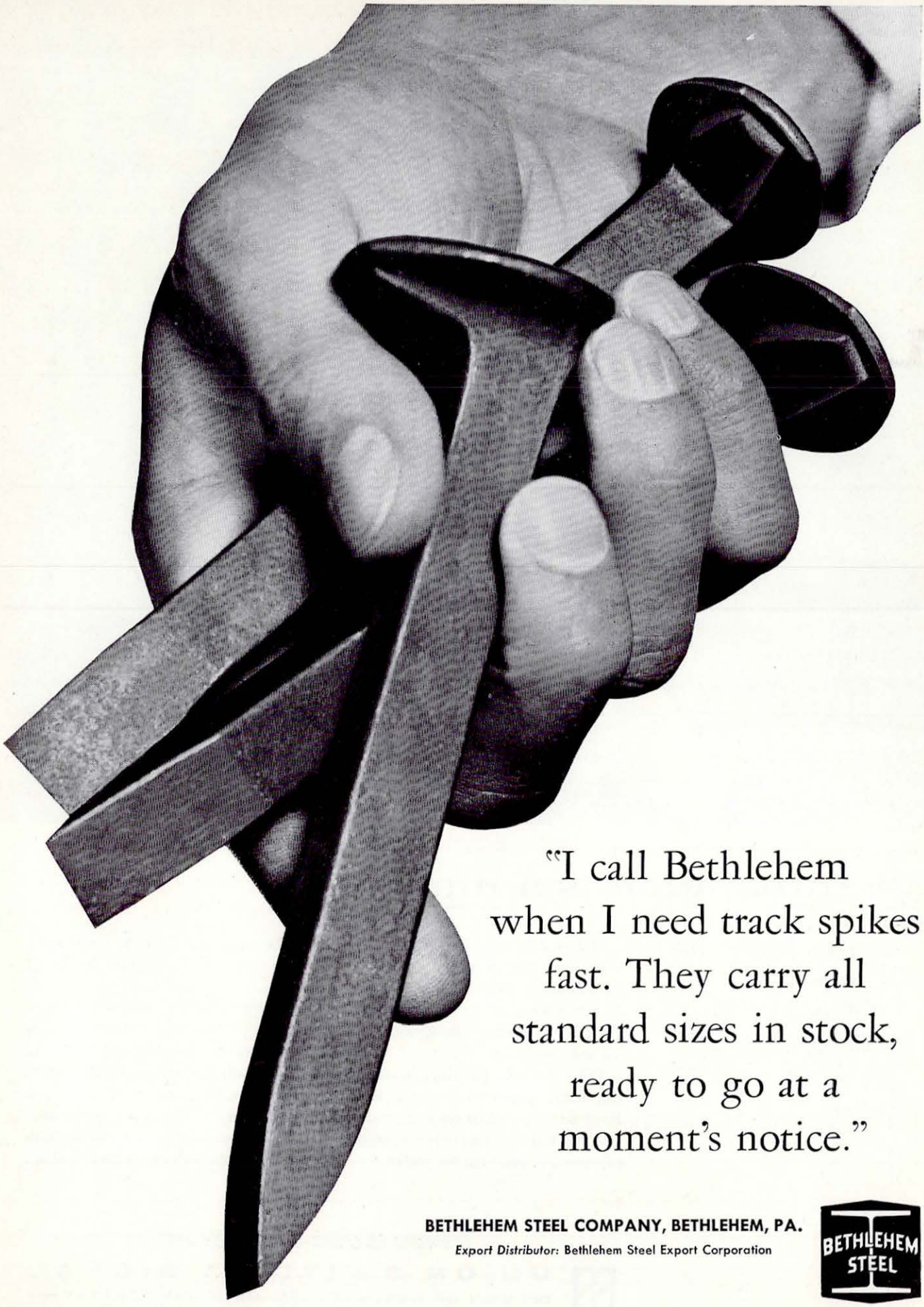

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"Automation is a must"

says Mr. David A. Hill,
Consultant,
Railroad Securities
Chicago, Illinois

"Railroads cannot afford NOT to mechanize. The annual saving from funds invested in modernization is substantial. In fact, bank loans for such purposes as C.T.C. and electronic classification yards are self-liquidating."

This prominent securities consultant, like many others in his field, firmly believes that increased automation is the best way railroads can reduce operating expenses . . . and improve profits.

The meaning is clear. And, more and more railroads are installing the needed cost-cutting control systems. UNION Centralized Traffic Control and UNION VELAC® Classification Yard Systems have proved their outstanding ability to promote efficient, reliable service and to reduce operating costs. Let us tell you about them. An inquiry will bring interesting factual information together with a list of installations and proof of savings.

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RAILWAY AGE *weekly* November 23, 1959 • Vol. 147, No. 21

Week at a Glance

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High HP marks new loco units ..... p. 9

Two western roads are reported favorably considering purchase of high-horsepower diesel-hydraulic locomotives from German manufacturers. A prototype 3,000-hp unit has completed 18 months of tests in Germany. Another road is making progress on a coal-fired gas turbine design.

Cover Story—How the GN repairs box cars p.18

The 1,000 cars are getting a new look at the rate of 7 a day. Novel stripping methods, among other fast-moving operations, have sharply reduced the man-hours required for the job.

Cover Story—Shipping the atom p.20

Industrial use of radioactive materials is increasing rapidly. Railroads can take advantage of the situation to become the "know how" carriers of this specialized traffic. To do so, they first must learn what the new business is all about.

Cover Story—Ride tests seek TOFC loading data p.28

The AAR's Chicago Research Center has developed a new system of ride analysis. A series of test runs using the system has just been completed. Results of the tests will be used, among other things, in connection with piggyback shipments.

RPI probes financing problems p.31

After thorough study of methods of equipment leasing a Railway Progress Institute committee reported to the group's annual meeting that better understanding of the economic factors and principles is required before choosing one of the alternative methods that have been proposed.

NITL backs RR's on major policy questions p.36

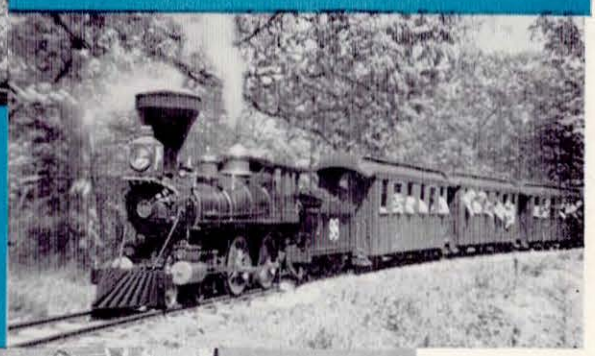
The National Industrial Traffic League has gone on record as favoring essential features of nearly every major policy question now confronting the carriers.

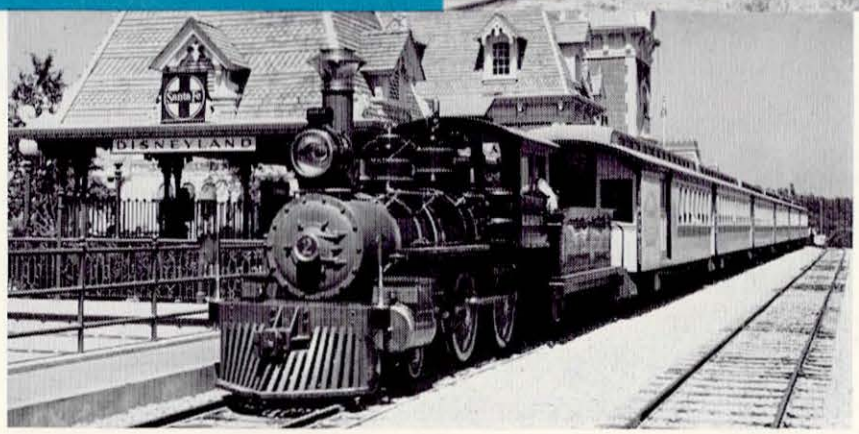
The Action Page—Power from coal? Here's how— p.42

Potential opportunities for profitable railroad electrification have increased greatly in recent years. The potential can be realized if the clammy hand of socialist competition is removed from the railroads' throat.

ON THE MODERN

ON THE MINIATURE





ON THE HISTORICAL

Yes, Edgewater wheels and tires are used on railroads large and small to transport the products and people of a growing America

Edgewater Steel Company

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Week at a Glance CONT.

Current Statistics

Operating revenues	
9 mos., 1959	$7,391,129,587
9 mos., 1958	7,013,191,462
Operating expenses	
9 mos., 1959	5,807,048,048
9 mos., 1958	5,613,195,989
Taxes	
9 mos., 1959	792,949,896
9 mos., 1958	685,984,463
Net railway operating income	
9 mos., 1959	548,669,818
9 mos., 1958	448,671,909
Net income estimated	
9 mos., 1959	393,000,000
9 mos., 1958	353,000,000
Average price railroad stocks	
Nov. 17, 1959 ...	98.25
Nov. 18, 1958 ...	104.26
Carloadings, revenue freight	
45 wks., '59	26,773,014
45 wks., '58	26,234,904
Freight cars on order	
Nov. 1, 1959 ...	36,199
Nov. 1, 1958 ...	23,670
Freight cars delivered	
10 mos., 1959 ...	32,063
10 mos., 1958 ...	36,255

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Short and Significant

The BLE will spread a strike ballot . . .

in an effort to get its wage case before an emergency board. The engineers see little hope for continued mediation and Grand Chief Guy L. Brown, meeting with his general chairmen in Chicago, has told them to prepare to spread a ballot when they return home. Meanwhile, the mediation board has recessed negotiations until Dec. 1. Conceivably, BLE members could be voting on a strike at about that time. Return of the ballot would take about two weeks. The five chiefs of the operating brotherhoods will meet in Cleveland this week to discuss cooperation in the handling of rules notices.

First Flexi-Van shipment . . .

from Japan to the United States left Yokohama last Friday in a States Marine Line Flexi-Van container. The shipment of sewing machine heads will arrive in Seattle, Wash., Dec. 5 where it will be picked up by the Milwaukee Road for delivery in Illinois.

New AAR studies on mail handling . . .

by different forms of transport will soon be under way. They will be under the direction of Peter L. Conway, Jr., who will come to the association Dec. 1 as assistant director —accounting of its railway mail transportation division. Mr. Conway is now assistant auditor of freight receipts of the Illinois Central.

User charges on public transport facilities . . .

"are an accepted concept in the minds of people involved in government." That's what the undersecretary of commerce for transportation, John J. Allen, Jr., said last week. He told the Association of Local Transport Airlines that this idea has come with recognition of inequities involved in using general tax revenues for facilities "particularly related to persons who use them." Withdrawal of rail passenger services affords opportunity to develop local air traffic, the secretary also told his audience, which represented the most heavily subsidized carriers in the air transport field.

New York Central . . .

has acquired $5,000,000 of convertible notes of the Flying Tiger Line, Inc., largest all-freight airline in the world. In announcing the transaction, NYC President A.E. Perlman commented "We believe that the public interest requires the efficient usage of all modes of transportation, including air. Furthermore, we believe the air freight business to be complementary to, and not directly competitive with railroad traffic."

Photo shows typical rubber products. All rubber parts are made to exacting specifications right at the Westinghouse Air Brake Company plant so that quality can be closely controlled.

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High HP Marks New Loco Units

► The Story at a Glance: Two new locomotive developments were being discussed last week. Reports circulating in the industry indicated that two western roads were favorably impressed with the possibilities of adapting for U.S. conditions a 3,000-hp diesel-hydraulic unit now operating in Germany. German designers say the unit is also available at 4,000 hp. A third road was moving ahead on plans to build a coal-fired gas turbine.

Seven 3,000-hp German-built diesel-hydraulic units may be running on American rails in the near future. That, at least, is the prediction of informed sources close to the German manufacturer.

The design that has attracted American attention is a modification of a 3,000-hp diesel-hydraulic unit extensively tested on the German Federal Railway during the last year-and-a-half. The major modification for American service is reported to be in converting the hydraulic transmission to provide dynamic braking.

As reported in the British publication, Diesel Railway Traction, the German prototype was built in 1957 as a 2,200-hp C-C type diesel-hydraulic locomotive. In 1958, Krauss Maffei, its builder brought it back to the shops and replaced the original 1,100-hp diesel engines with two new 12-cylinder, 1,500-hp units. At the same time, new Mekydro transmissions with higher input ratings were substituted for the original Mekydro transmissions. A 15-notch control system replaced the original 6-notch control, and the gearing was changed to boost top speed from 75 mph to 87 mph.

These modifications were completed early in 1958, and the 3,000-hp locomotive was put in test service in June on the German Federal Railway and in July on the Austrian Federal Railways. By June of 1959, the tests had run off over 60,000 miles, much of which was in hauling 2,000-to-2,500-ton coal trains over a ruling grade of 0.8%. Adhesion is over 33%.

Power output on the prototype locomotive is obtained through 15 successive controller positions at engine rpm's from 600 to 1,590. At 600 rpm in the first notch, the engines produce 220 hp; at 1,590 rpm, in notch 15, the rated 3,000 hp is produced by the engines.

The overall length of the prototype unit is 66½ ft. With full supplies, service weight is 101.1 tons, which gives an axle loading of slightly under 17 tons.

While some roads are looking to the diesel-hydraulic design as a possible solution to the problem of high-horsepower, single-unit locomotives, at least one other road is making progress with a coal-burning gas turbine locomotive design. Information from many sources indicates that a large western road has such a motive power unit beyond the planning stage.

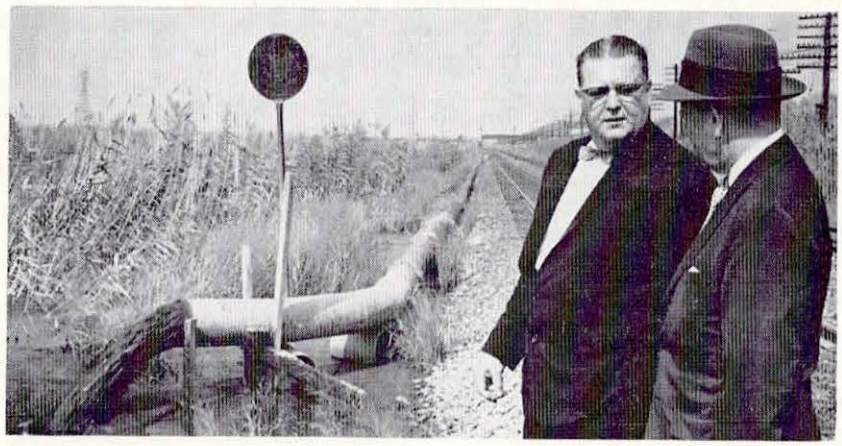
Leading coal producers and coal-carrying roads have been working hard since 1945 to make the coal-burning gas turbine a reality. First, though, a prime mover had to be developed that would be able to compete on economic terms with the oil-burning diesel engine.

For this purpose, the Locomotive Development Committee was formed with eight railroads, four coal producers and a coal research organization as affiliated members. Its aim was to encourage the use of coal as a locomotive fuel. The incentive: coal costs only about one fourth as much as oil per heat unit.

Major problems that had to be solved in developing a coal-burning gas turbine were coal handling and pulverization, combustion and fly-ash elimination. Components were tested at a pilot plant set up at the Dunkirk, N. Y., facilities of the American Locomotive Co. (now Alco Products, Inc.).

The current plans to build a coal-fired gas turbine locomotive attest to the fact that workable solutions to these problems have been found. It is known that the pioneer unit in this motive power field will make use of the superstructure and running gear of a 12-axle, 5,000-hp motor-generator electric locomotive acquired from a road that had dieselized its electric operation.

It is also understood that two manufacturers have orders for component parts. One company will supply coal-handling equipment, fly-ash separators and combustors; the other will supply the gas turbine, compressors, reduction gears and associated equipment.



NYS&W Reclaims Land for Industry

The New York, Susquehanna & Western, together with the Edgewater Terminal Corp., Edgewater, N. J., is using Hudson River silt to further plans for industrial development. The silt is carried in liquefied form from a dredging barge in the river to the swampy New Jersey "meadows" via three miles of 12-in pipes along the railroad's right-of-way. A 5,200-ft NYS&W tunnel is an important link to the "meadows." Shown discussing possible industrial uses of the filled-in land are Edward Sickles, left, president of the Edgewater Terminal, and Ralph E. Sease, right, president and general manager of the NYS&W.

Private Carriage: 'A Real Threat'

Transportation in the U.S. is neither as good as it ought to be, nor as stable —and too little effort is being put forth to improve things.

At present, private and specialized carriers are increasing the pressure on common carriers. This poses real danger to the nation's transportation system; so much so that the common carrier may eventually be threatened with extinction unless corrective measures are pushed.

These ideas were advanced by Prof. E. W. Williams, Jr., of Columbia University in a talk at the annual meeting of the Delta Nu Alpha Transportation Fraternity in Pittsburgh. Points stressed:

- Traditionally, common carriers have acquired obligations to provide service for all, large or small, at all points and regardless of commodity. Under such conditions, service and rates have been equalized in a legal sense rather than on an economic basis.
- Economic discrimination in a large way has resulted. Traffic which, in the absence of private carriage, paid a high margin above cost has been called upon to subsidize other common carrier traffic regarded as desirable to develop but unable to bear full cost.
- This high-margin traffic is where private and specialized carriage develops first, because savings from going rates can be effected. Meanwhile, historic regulation forbids common carriers from abandoning unremunerative services or calling upon such services to pay in closer accord with cost.
- These trends eventually may reach a point of no return in the present enterprise system. Responsibility for essential common carriage will then have to be assumed by government, since service is necessary.
- Regulatory policy alone is not at fault for this bleak prospect. The mixed system of enterprise in transportation, in which public investment assumes increasing importance, is also a contributor. Public investment tends to favor transport which uses publicly-provided facilities by exempting them from capital risk in fixed facilities, by permitting use of public credit, and by converting fixed costs into variable costs before they fall upon the carriers. The result is extra flexibility for those modes which use public facilities.

The question facing students of transportation, Prof. Williams suggests, is whether institutional change can be made fast enough to obtain major benefits from the rapid and accelerating technological advance which has marked the transport industries.

Watching Washington *with Walter Taft*

- **RECOMMENDATIONS** of the House's Subcommittee on Adequacy of Transportation in the Event of Mobilization are like those anticipated here a month ago (RA, Oct. 26, p. 10). Thus, the subcommittee's final report endorses parts of the railroad industry's legislative program, i.e., the call for repeal of IC Act provisions which leave for-hire trucking of agricultural products unregulated, and for changes in the Internal Revenue Code to permit railroads to accumulate construction reserve funds and to fix 15 years as the maximum depreciable life of railroad equipment.

THE SUBCOMMITTEE, headed by Rep. Kilday of Texas, is a creature of the House Committee on Armed Services. Its role is restricted by its lack of jurisdiction over legislation which would implement its recommendations.

ALL IT CAN DO is refer its report and the record of its hearings to House committees having jurisdiction. The Committee on Interstate and Foreign Commerce will get the recommendations for repeal of the agricultural exemptions and the construction-reserve and 15-year-depreciation proposals. The Committee on Ways and Means will get the subcommittee's favorable comments on PRR Chairman J. M. Syme's proposal that a federal agency be established to purchase equipment for lease to railroads.

LOCAL TAX RELIEF is recommended to ease the railroad's burden of providing commutation and other passenger services. To make this effective, the subcommittee suggests that the Internal Revenue Code be amended to exempt proceeds of such relief from taxation as income.

OTHER RECOMMENDATIONS would not require legislation. They call upon the office of Civil and Defense Mobilization to establish a National Traffic Control System and to keep current estimates of what essential civilian and war-supporting transport requirements would be. The proposed traffic control system would be a set-up which could be expanded in time of emergency by drawing personnel from OCDM's executive reserve.

THE SUBCOMMITTEE REJECTS suggestions that the Department of Defense give each mode of transport the same proportion of its traffic in peacetime as that mode would be called upon to handle in an emergency. During World War II, railroads transported more than 90% of all military freight and 97% of all troop movements. "In accord with a reasonable interpretation of the Armed Services Procurement Act and in consonance with the National Transportation Policy" is what the report says of DOD's present policy of "procuring the lowest cost mode of transport commensurate with the service requirements."

AN OVERALL REACTION of the subcommittee is that presentations at its hearings reflected little, if any, "new thinking" in the transport field. There was "an obvious dependence on past experiences for guidance," the report says, adding: "All in all, it was a picture of obsolete equipment, 19th century economics and laws and antiquated thinking."

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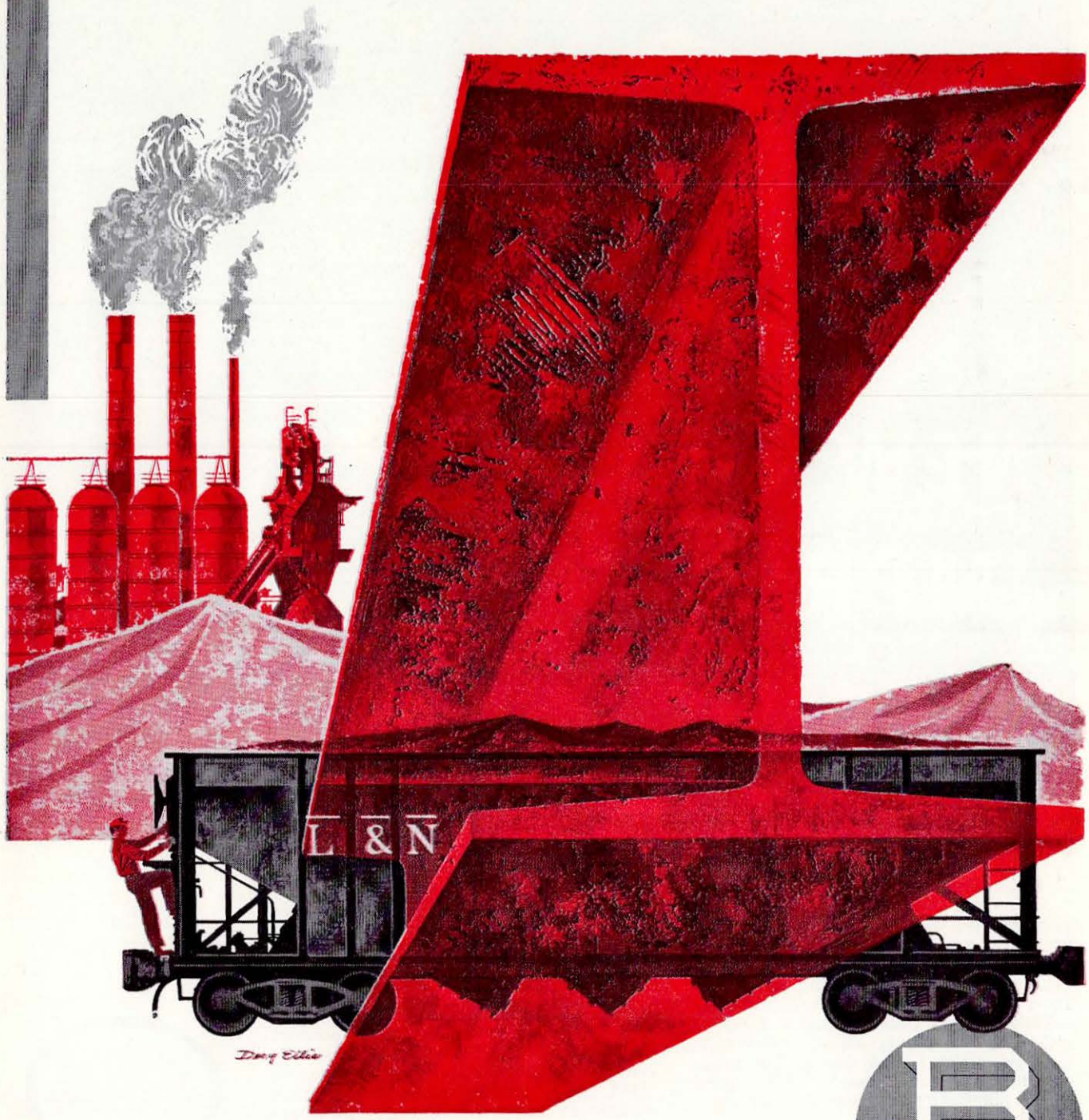

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New Essolube HDX clings to bearing surfaces with a tough lubricating film that helps prevent wear and resists metal scoring under heaviest load conditions. From top to bottom, Essolube HDX keeps engines clean, keeps all moving parts free from carbon and varnish deposits.

When tested and compared (with a reference heavy-duty oil of higher than average quality) over one million miles of field tests proved Essolube HDX gave better lubrication in these vital areas:

- Bearings showed less wear from oil film breakdowns, and less corrosion from combustion by-products.
- Piston varnish deposits were greatly reduced, rings stayed clean and free acting – extending engine life.
- Anti-wear additive gave greater protection to cam shafts, valve lifters, bearings and gears.

Essolube HDX is another new product developed by Esso Research to reduce railroad maintenance costs. Specify Essolube HDX for maintenance-of-way and other equipment using small, high-speed engines. For more information, write: Esso Standard Oil Company, Railroad Sales Division, 15 West 51 St., New York 19, N.Y.

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In Industry after Industry..."ESSO RESEARCH works wonders with oil"

Would 24-Hr Clocks Be Better?

A User Reports

"In the operation of this railway the 24-hour system is used, although the Uniform Code of Operating Rules provides for either system. Our working time cards also indicate the use of the 24-hour system. I do not know, however, of any 24-hour clocks being used on this or any other railway, if by 24-hour clocks is meant a clock on which 24 hours are indicated separately. We do, of course, have clocks and watches which show the hours 13 to 24 in the same positions respectively to hours 1 to 12, the former figures being shown in a separate color and usually in small numbers."—*J. F. Cooper, general manager, Northern Alberta Railways.*

Benefits Are Questioned

"With reference to the question, 'Why not 24-hour clocks for operations?':

"This is a subject that has been considered before. I believe there is little, if any, confusion on account of using A.M. and P.M. time. If railroads alone were to convert to the 24-hour system, I am convinced that any confusion now existing for our patrons would be multiplied many times when it would be necessary to convert this system to Standard Time or Daylight Saving Time. Such a change would have an impact on many people and would in effect be nation-wide.

"Changing the method of expressing a unit of measurement used as extensively as 'time' on a national basis would require an educational program, be time consuming and be confusing to many people. In addition, consideration would have to be given to the expenses involved in changing or replacing our present timepieces to eliminate the necessity of time conversion and the probability of error.

"Actually, this is a proposition the foreseeable practical benefits of which are so questionable, when compared to our present system, that they could not justify the confusion and expense necessary to make the change."—*M. I. Dunn, vice president, operating department, Chesapeake & Ohio.*

Conducted by George C. Randall, district manager, Car Service Division, retired, this column is a forum for questions being discussed on railroads today.

Questions and answers are welcome from readers at all levels of responsibility. We'll pay $10 to any reader submitting a question that forms the basis for a column discussion.

Would 24-hr. Clocks Be Better for Operations? came from a correspondent who noted that 24-hour time is used by the armed forces, by overseas airways and by some Canadian railways.

Why Not Hand Brakes Near the Ground? came up in a discussion between some yard employees and an insurance agent in which the group was trying to come up with new methods or equipment to improve yard safety. The group felt that topside brakes, now little used except for parking and occasional yardwork, are hazardous.

Why Not Hand Brakes Near Ground?

Safety appliance rules under ICC jurisdiction can be changed only by the Commission. In discussing a possible change in hand-brake location, our intention is simply to provide a forum for discussing an interesting topic: No criticism of ICC practices is meant.

"With hand brake located to permit it being operated from the bottom step of side ladder, I do not visualize how a man riding a box car, either kicked or dropped, could see in the direction of movement when brake was on the trailing end of the car.

"I have always considered present location of hand brake a realistic one that provides the rider a platform on which to firmly place one foot, a grab iron on top of car to grasp tightly, wheel so located that he may see over top of car while operating to know how much room he has in the track immediately ahead."—*E. W. Hobbs, superintendent of safety, Missouri Pacific.*

"We agree that as far as actual operation on the main line is concerned, hand brakes are practically useless. However, we believe there are still a great many conditions in industrial plants where it is necessary to locate the hand brake at the top of the car. A great many of these plants have warning signs to the effect 'no clearance for man on side of car.' It is, therefore, necessary for a man spotting the car with the hand brake to ride on the end of the car. If the hand brake end happens to be the rear end in the particular movement, he cannot see the location where the car is to be spotted, except by having the brake located at the top so he can see over the car.

"With this one exception, we are in accord with the feeling of your correspondent that hand brakes are merely parking brakes in today's operations."—*S. H. Moyes, chief engineer, General American Transportation Corp.*

SIDE-MOUNTED hand brakes are installed on CNR's new 75-ft automobile cars, near bottom rungs. Cars are not in interchange service.

GUARANTEED

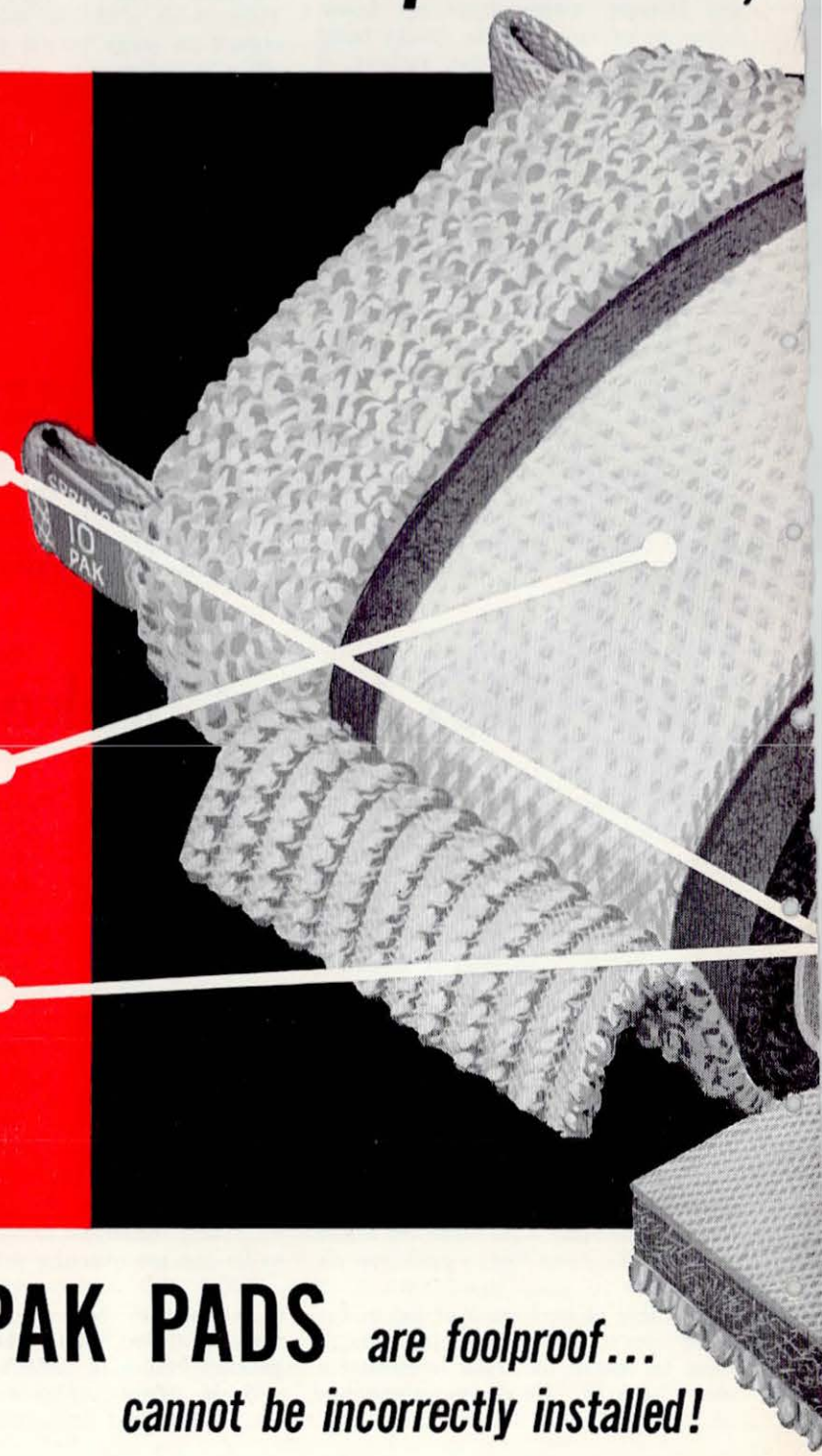
new revised SPRING-PAK (PATENTED) *assures most dependable,*

Check these All-New Spring-Pak Features!

NEW SPRING STEEL RINGS with radius reinforced clips—damage-proof in normal operation—guaranteed 2 years. Assure constant pad contact with journal. Not affected by oil and heat.

NEW CONTINUOUS PERIMETER LUBRICATING WICK assures 100% wicking. New pad retains one-third more oil.

NEW POLYURETHANE FOAM CORE is an excellent reservoir of oil; not used for resiliency.



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SPRING-PAK PADS *are foolproof... cannot be incorrectly installed!*

LUBRICATION PAD
constant journal lubrication!

Check these famous traditional Spring-Pak Features!

TUFTED COTTON COVER is of special long-wearing loop-woven material. Loops are securely anchored. Its continuous wicking action prevents glazing or sticking to journal, even in sub-zero weather.

OIL RESERVOIR of rugged highly absorbent felt holds oil entirely around pad, providing an abundant supply of oil just beneath the cover.

THREE YEARS in actual service has proved that this combination of tufted cotton cover and heavy felt assures long life with regular reclamations.

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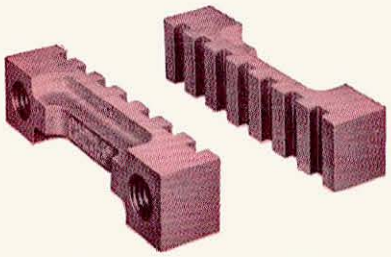
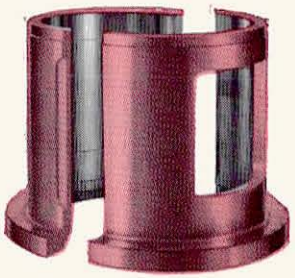
Today, and tomorrow too,
you can bank on Magnus to give you
the bearing performance you want
at a price you can afford to pay!

Magnus Solid Journal Bearings



Magnus R-S Journal Stops



Magnus Traction-Motor Support Bearings

YES, Magnus is in the railroad bearing business—has been almost from the days of the Tom Thumb! And during this century of specialized service, Magnus has pioneered many significant advances in bearing metallurgy and design—to provide better bearing performance at lowest possible cost.

For example, the recently-introduced Magnus R-S Journal Stops have given railroads the first truly low-cost solution to the hot-box problem. By taking the "slop" out of the journal box, R-S Journal Stops prevent excessive displacement or lifting of the bearing—even under the most severe braking and switching impacts. They increase bearing life 200 per cent, reduce wheel flange wear, protect dust guards—cut operating costs all along the line. Magnus lubricators provide another important link in the chain of improved bearing performance. And in diesel-electric and electric locomotives and MU cars, modern Magnus traction motor support and armature bearings assure trouble-free mileage between motor overhauls.

And Magnus is keeping a weather eye on the *future*, too. With this background of railroad experience, Magnus is continually developing and testing new designs of journal box components for still greater efficiency and economy in railroad service. Whatever the future may hold, of this you can be sure. Tomorrow's rolling stock will ride on Magnus bearings—bearings that are *right for railroads* in performance and in cost. For further information on Magnus bearing products, write to Magnus Metal Corporation, 111 Broadway, New York 6, or 80 E. Jackson Blvd., Chicago 4.

MAGNUS METAL CORPORATION
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GEARED TO PROGRESS
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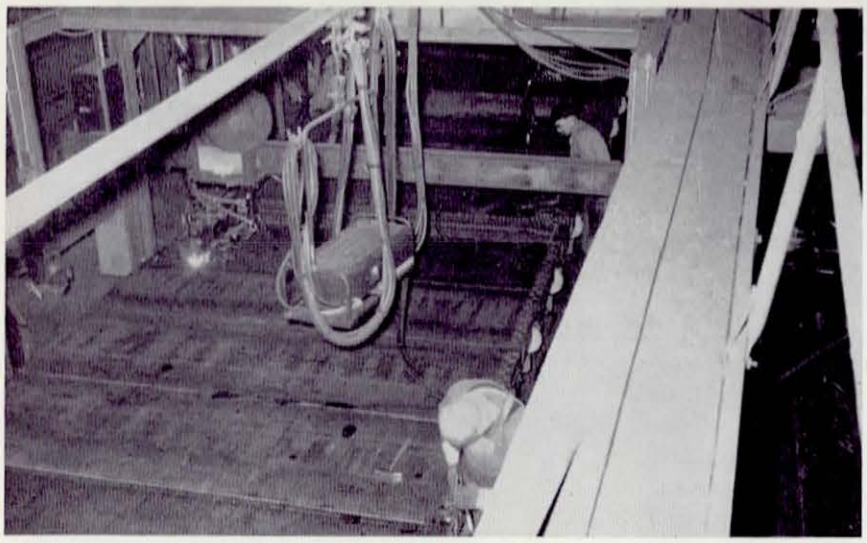


WELDING OF SEAMS between individual side panels was done with Airco automatic gas-shielded equipment. Wire feeder travels on overhead rail.

How GN Repairs Cars

▲ **APPLICATION** of fabricated side sections and reinforcement of floor were major phases of program. Scotchlite delineators were applied to sills.

► **SIDE SECTION** flanges were cut out to receive the original side posts and diagonal braces. Sides were primed in small paint booth before application.

The Great Northern is rebuilding 1,000 box cars—at the rate of seven a day—in its St. Cloud, Minn., shops. The cars are being equipped with shop-built steel sides. A working force of 246 men is involved.

Three fast-moving operations stand out in the heavy repair program:

- Novel stripping methods have cut man-hours for this phase of the work from 32 to 23 per car.
- Air Reduction welding equipment is used in assembling the car side panels.
- A shop-designed continuous washer, dryer and paint spray adjacent to the welding position finishes side sections for movement to the production line.

In stripping the cars, all safety appliances, door posts, decking and filler angle bolts are burned off. The bottom belt rails are loosened, and a few boards removed from the outer siding. A chain is then run around the sections of siding, which are pulled off by an Austin-Western crane (see cover photograph). The inner lining is shoved inward and off by the crane boom. A few floor boards are lifted, and a drag device in the car, pulled parallel with the car, removes all decking.

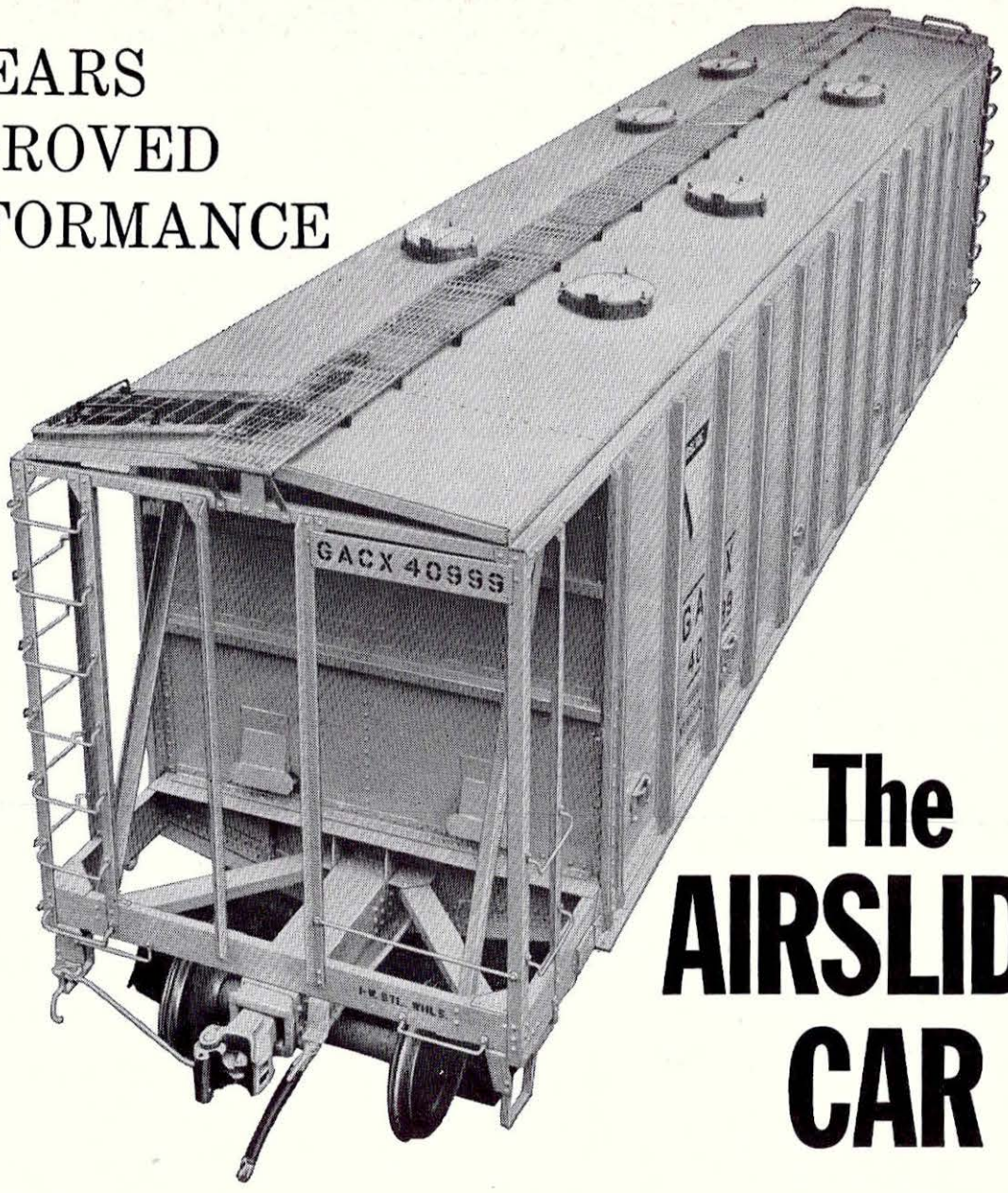
Side material is copper-bearing steel. Twenty-four 12-gage panels make up a pair of complete sides. Sheets are flanged on special dies to form panels incorporating the door posts and the intermediate, corner and bolster posts. Six panels are clamped in a jig on the welding table, and bottom and top angles are applied and spot welded. Seams between the panels are then automatically welded.

The section is raised to a vertical position and stitch welded on the reverse side. It then moves on rollers through a hot-water wash, dryer and paint spray booth where it is primed. Steam coils dry the section as it moves to the priming position. The air-operated paint spray nozzle moves up and down, automatically applying one coat of primer.

Improvements to the car include journal lubricators, snubbers, 2½-in. travel springs, and bottom-lift couplers. Shop-fabricated 3/16-in. plates, 40 in. high, are used for side and end lining, and 26-gage galvanized iron is applied, for fire protection, to the underside of the decking over the truck areas.

The rebuilt cars are part of 7,000 built for the GN between 1937 and 1942 by American Car & Foundry, Pressed Steel, Pullman-Standard, and General American. Previously, 1,000 were equipped with plywood siding, and another 1,000 with Youngstown steel sides. At present, 250 are being converted to stock cars at Great Falls, Mont.

6 YEARS OF PROVED PERFORMANCE



The AIRSLIDE® CAR

Every year, more and more shippers are going to Airslide Cars for economical bulk shipment. Here's why:

1. No bills for bags, drums or containers
2. Easier, safer loading and unloading
3. No packing, racking or stacking
4. Far more clearance for unloading

For further information on bulk shipping in Airslide Cars, call or write. You'll find, *it pays to plan with General American.*

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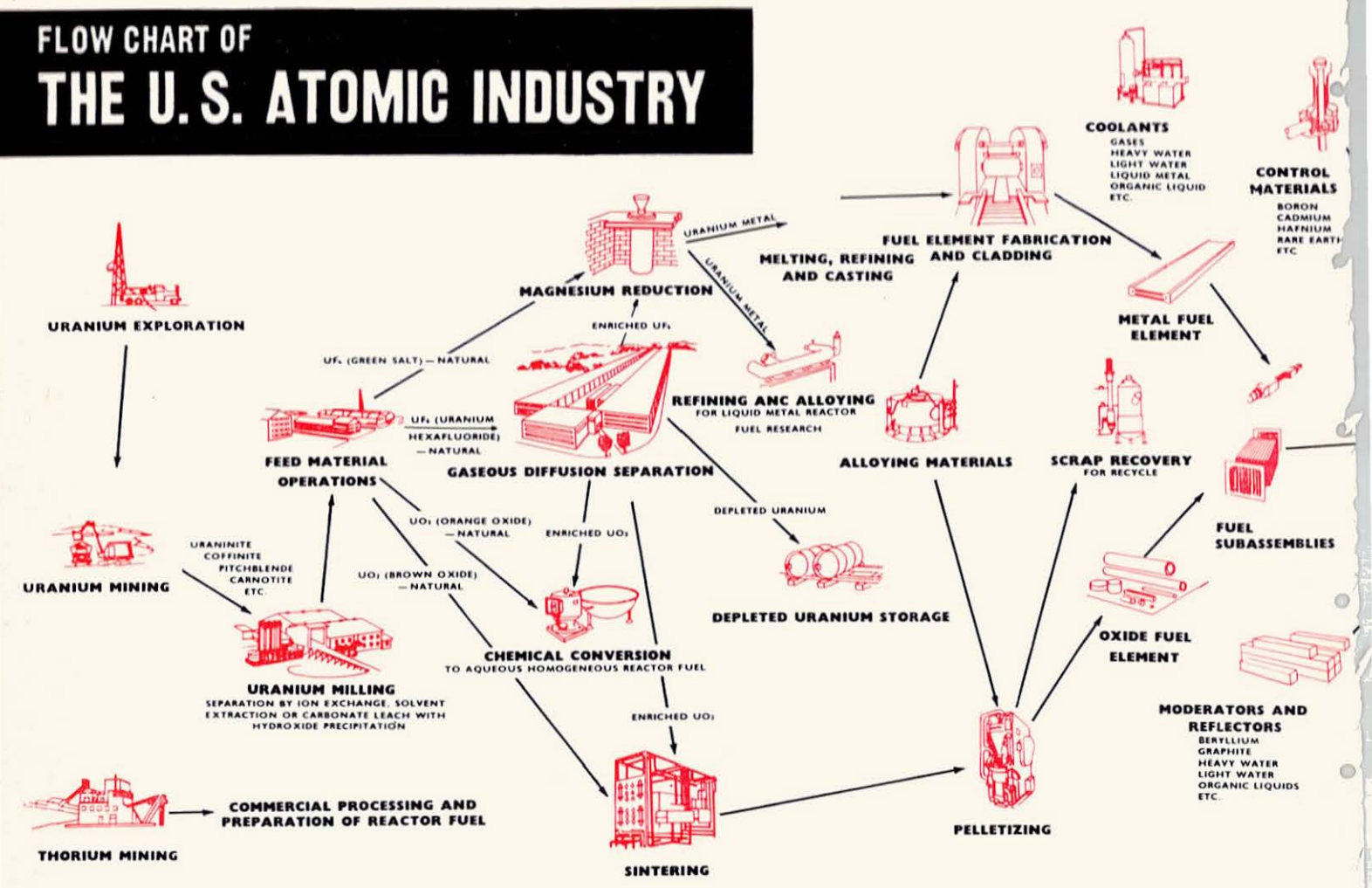


Shipping the Atom: Railroad

The Story at a Glance: Industrial use of radioactive materials is increasing at a fast clip. The trend began slowly a decade ago; the first ICC regulations for packing, marking and labeling shipments of these materials were published in 1947. Since then, the quantity and size of such shipments have increased rapidly.

Today, utility companies are building nuclear-powered generating plants, hundreds of companies are using radioactive isotopes in research and production, the Navy is building and using atom-powered ships and submarines.

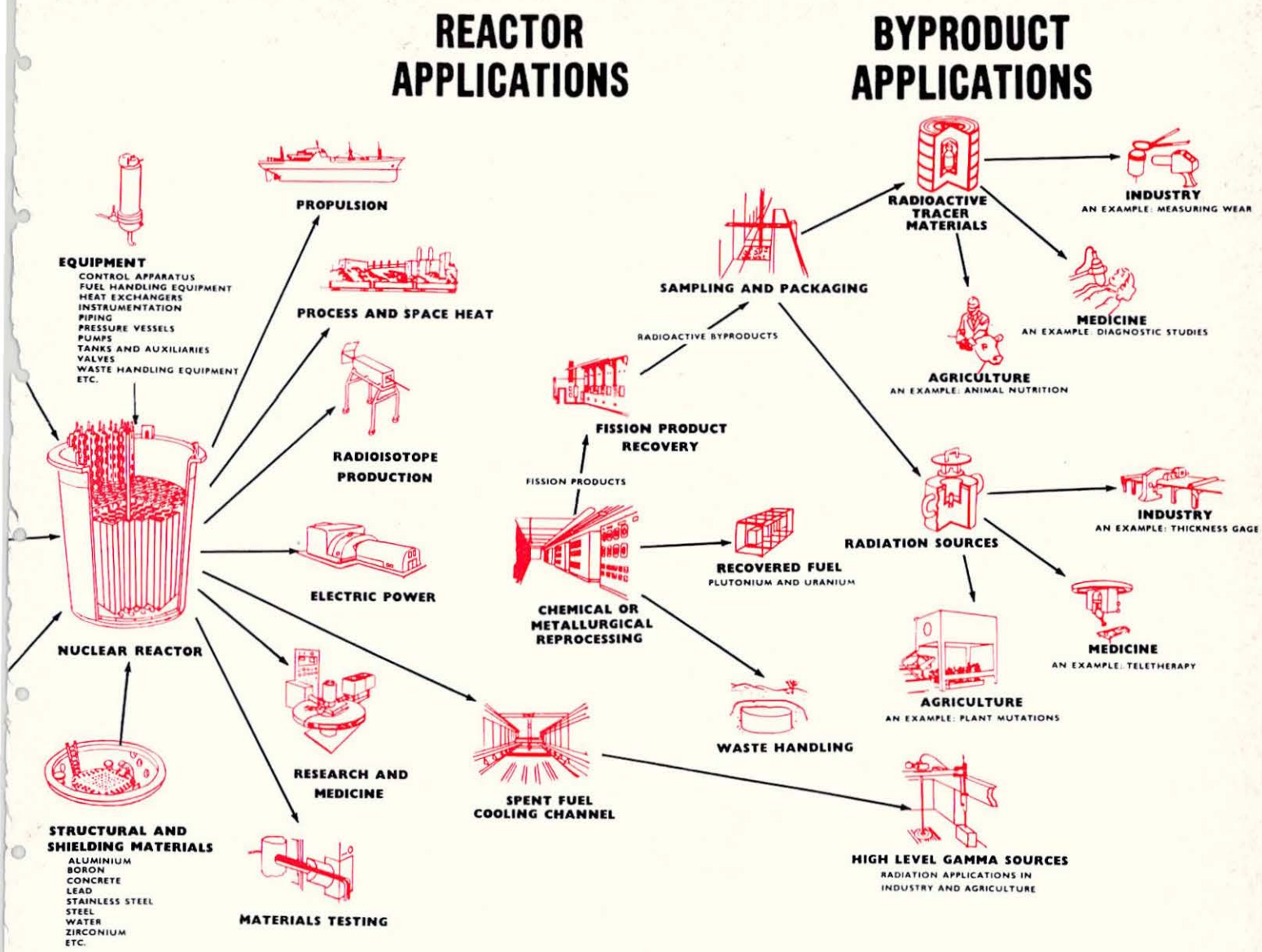
The flow chart above shows some of the ways atomic energy is being put to use; and, in doing so, suggests the size of the transportation job it involves.

By Joe W. Kizzia
Executive Editor

"Shipments of radioactive materials, I would say, are now running neck-to-neck, volume-wise, with explosives. This business is building up faster than many people realize."

This comment, one of dozens picked up by Railway Age editors during recent weeks suggests the size of a new transportation story that is unfolding to the nation's carriers these days. Fast-moving developments in the peacetime use of the atom are imposing new and unusual demands on all kinds of carriers.

• In the past year, for instance, a few railroads have handled some major shipments of nuclear waste—the highly



Challenge and Opportunity

radioactive spent fuel which must move in large and unusual containers. While few shipments of such material have been made so far, this very lack of precedent has helped focus attention on the potential hazards involved.

● One road rejected a commercial shipment of this kind because "railroads have no rating on such material and therefore same cannot move in rail service."

● Railroads and other carriers have handled radioactive isotopes and various forms of refuse and waste—things like broken lab equipment, discarded rubber boots, uniforms, and the like.

● A number of motor carriers slapped embargoes on shipments of radioactive materials—only to have the ICC remove them because, the commission said, it's one thing if you're *unable* to serve but quite another if you're merely *unwilling* to.

● New York City authorities say shipments of radioactive materials are passing through that city at perhaps ten times the rate of five years ago. At least some of these shipments, they say, are potentially hazardous; so they've toyed with a "give-us-two-weeks'-notice" ruling which, transportation men say, would promptly drive the traffic to private carriage.

The atomic transportation story is, at best, a difficult one to tell. It embraces far more than a report of traffic being handled; such things as safety, education, liability, equipment and operations are also involved. Yet significant parts of the story can't be told at all, or even learned for that matter, because there still are important doors that are marked "Secret."

It's surprising, none the less, how few railroad people seem to know what's going on. The chief safety officer of one railroad told Railway Age last month that his road serves a major atomic industry lab. And he added: "If you find out what we're doing out there, let me know."

Another illustration turned up in a city in Idaho a few weeks back. A railroad executive passing through town noticed a World War II hospital car in the station. The car was painted olive drab, in Army fashion, and carried the marking "ATMX." The railroad officer turned to an acquaintance nearby: "What kind of car is that?" (It was an Atomic Energy Commission car, the kind the agency uses when "riders" accompany a special shipment

Continued on page 24

TWO NEW LOW-COST SYSTEMS IBM 1401 CARD... IBM 1401 TAPE

with stored program speed and ability

Never before has so much powerful data processing ability been built into such low-cost systems! For in these two new IBM 1401 Systems you get features previously found only in the larger data processing systems. With 1401 Systems fewer machine units do *more* jobs . . . at *higher* speeds . . . with *greater* accuracy and reliability . . . at *lower* job cost.

To assure you of more production per data processing dollar, IBM's concept of Balanced Data Processing gives you compatible input, processing and output speeds, backed by unequalled customer service. Drawing on all the experience gained in developing the world's largest and fastest computers, these low-cost 1401 Systems bring you these large computer features:

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Magnetic Core Storage—the most powerful type storage available. To increase this power even further, the core memory of the 1401 accepts variable-length data and instructions, to permit the storage of only useful information. Choice of 1400, 2000, or 4000 positions of storage means you select the size storage to suit your needs.

High-Speed Printing—these 1401 systems feature an exclusive new concept of printing. A horizontally rotating chain prints high-quality, perfectly aligned copy. A dual-speed carriage permits printing at the rate of 600 lines a minute, skipping blank paper at 27,000 lines per minute to produce more documents per dollar. Completely flexible editing and print format is provided by the central processor.

Your local IBM representative will explain the many applications and unusual features of the new 1401 Systems. Call him today. These systems, like all IBM data processing systems, may be purchased or leased.

BALANCED DATA PROCESSING

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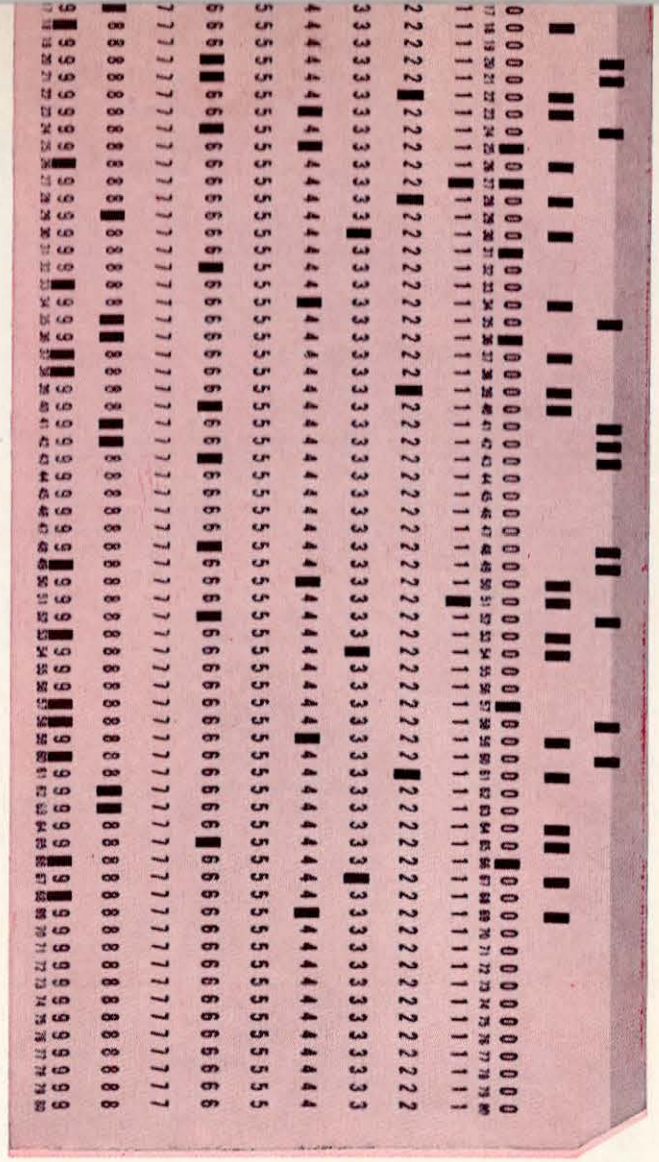
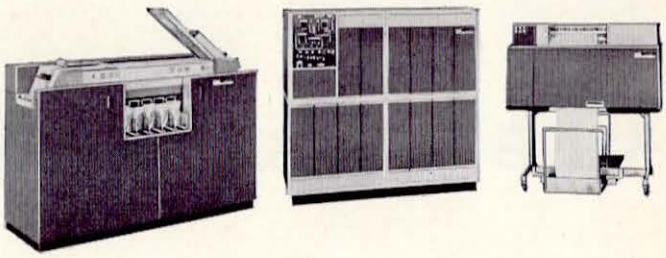




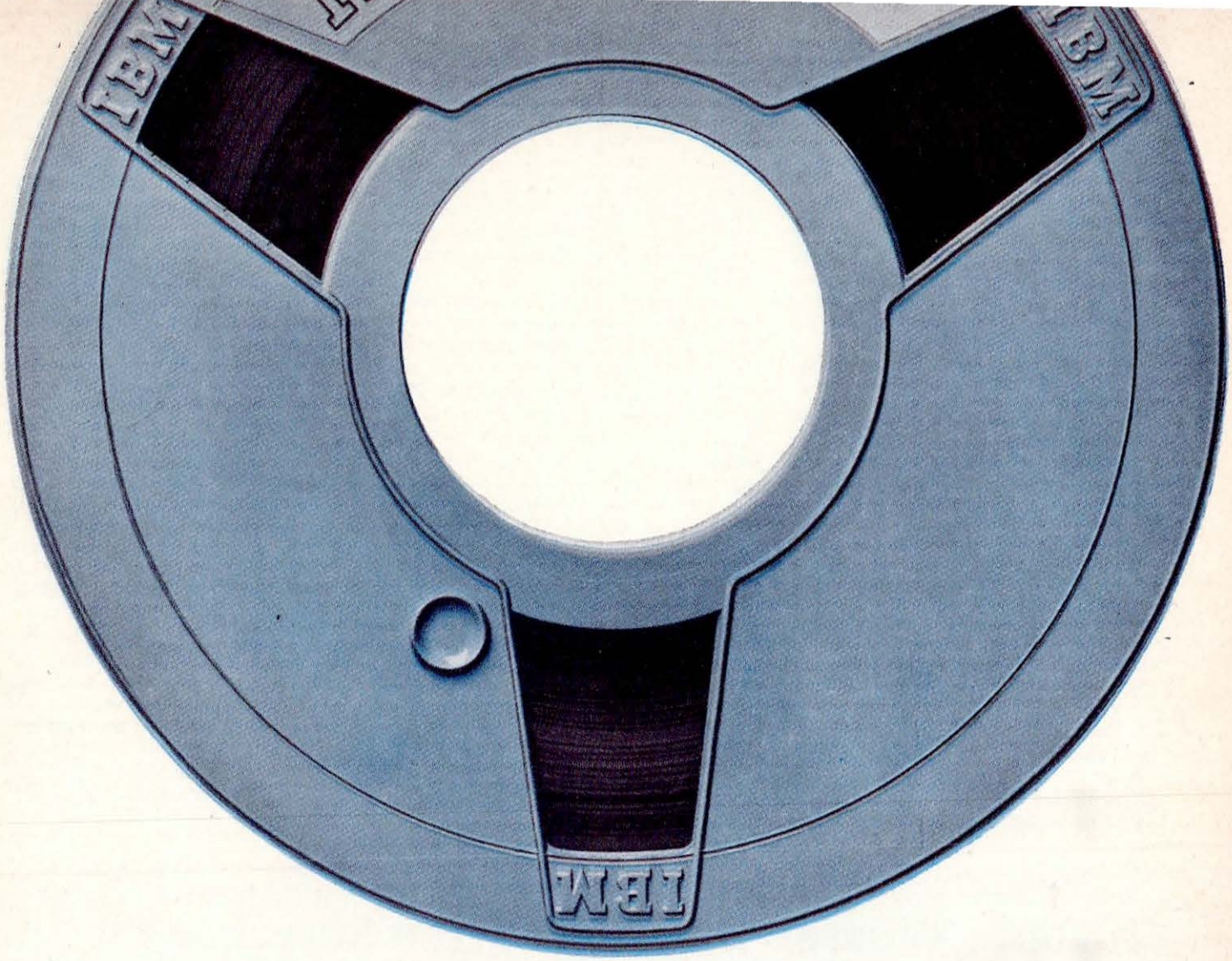
1401 CARD SYSTEMS

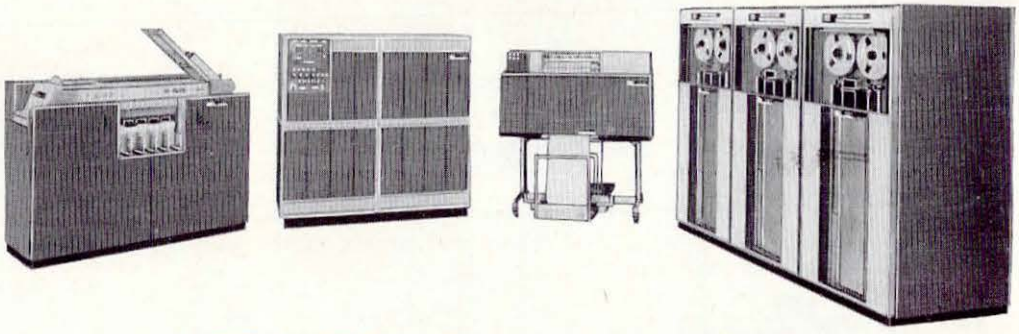
These stored program systems now bring the power of electronics to IBM card systems. They automatically handle the work of accounting machine, summary punch, and calculator, but at far greater speed, and with more flexibility and accuracy.

Input is faster—IBM cards are read into the system at the rate of 800 per minute. Data is processed automatically under stored-program control. Manual card handling is minimized.

Output is faster—documents are printed at the rate of 600 lines per minute, cards punched at 250 per minute. The system will turn out, for example, as many as 230 checks in one minute—again, more documents per dollar through Balanced Data Processing!

Thru-put is faster—data flow is automatically checked for accuracy and speeded all along the line. A unique Card Read-Punch combines card input, output, and summary punching functions. Five radial stackers accept cards that are selectively separated under stored program control.





1401 TAPE SYSTEMS

IBM 1401 Tape Systems give you added power through use of up to six magnetic tape units. These units feed data into the system at the rate of up to 62,500 characters per second . . . record processed results at this same peak speed.

1401 Tape Systems are also extremely valuable as off-line auxiliaries to large data processing systems. They can edit tapes prepared for larger IBM systems. They make possible a tape-oriented IBM 7070 configuration that provides higher speed input and output and makes for job cost improvement.

When tape units are added to 1401 Systems, you get greater flexibility and storage advantages, too. IBM tapes provide extremely compact storage of variable-length records—the equivalent of 129,000 IBM cards on a single reel. Tape records can be of variable length, and are read into and out of the system automatically. Also, tapes can be erased and re-used to minimize your record-keeping costs.

of nuclear material).

All this is puzzling. One of the big needs—one agreed to by government agencies, the Bureau of Explosives, safety officers and apparently everyone else—is for education among transportation employees. Yet with the possible exception of the Bureau of Explosives field staff, very little has been done.

One traffic manager who's been involved in some major shipments of these materials says he wishes rail carriers would get some kind of educational program under way—the sooner the better.

"Every time we get a car out on line I can expect phone calls in the middle of the night. Some conductor somewhere wants to know if his crew can get close enough to my car to switch it. Of course he can. Regulations won't permit us to send out a package that isn't perfectly safe."

This matter of education is basic, and perhaps the most crucial problem in the whole situation right now. Railroad officers who are familiar with the need have begun, just in the past three weeks, to work on a big simplification job on the numerous, and sometimes overlapping, regulations that now govern transportation of radioactive materials.

Government officials, meanwhile, have been moving with caution. They want to avoid any hitch which might, in any way, slow industry's increasing use of nuclear energy. They know the general public still equates the atom with bombs and mushroom-shape clouds. To them, it's a case of knowing what you talk about before you talk, and in transportation matters even the AEC is having to learn by experience.

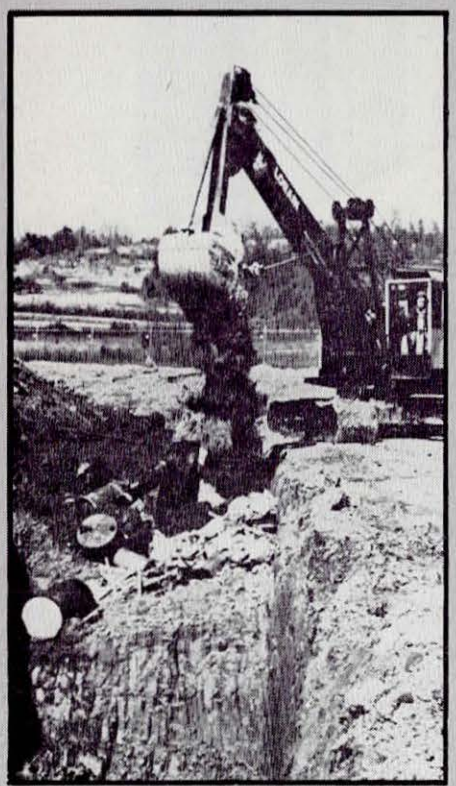
Railroad people, safety officers in particular, are inclined to fret over this slow-order approach. They contend, to Railway Age editors at least, that what is known about handling radioactive materials in transit ought to have a complete airing so educational programs can be started at the local level.

At the Harriman Safety Award dinner in September one director of safety put it like this: "If the government is interested in optimum safety, the way they say they are, I'd like to see some of their people out on our property. We've handled a few of these shipments and, frankly, they worry me."

One story that made the rounds last summer illustrates the extent to which a railroad will go when it must deal with unknown factors.

The story involved a shipment of "housekeeping" refuse from an atomic plant. The material was destined for burial in Idaho, and had been packaged in steel drums to meet regulatory requirements. The box car was clearly placarded, "Radioactive Materials." But en route, the car ran through a rainstorm and water entered the car through a small hole near the roofline. At an intermediate terminal the water was seen leaking from around the door —and, not knowing the precise content of the car, the whole yard was put in a first-rate tizzy. The car was shoved to the back side of the yard and amply roped off; the switchboard buzzed to reach the shipper and the nearest AEC office. Special personnel were promptly dispatched to the yard

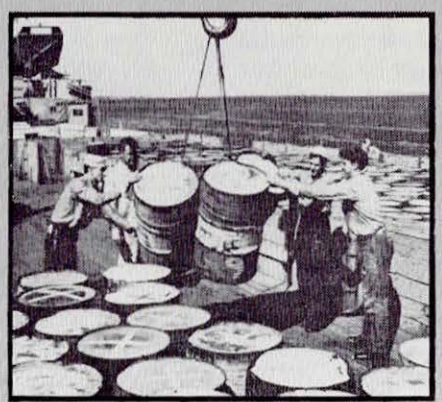
Nuclear Waste—Disposal after Shipment

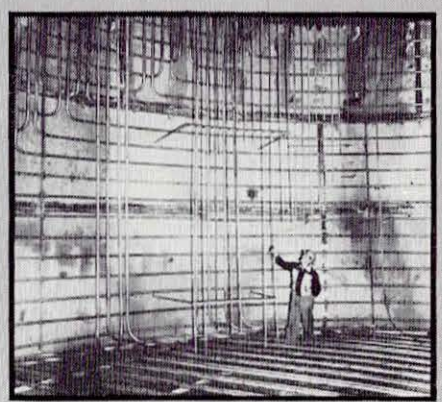


Levels of radioactivity vary widely in atomic materials, and in the case of waste products this affects how they're shipped and subsequently disposed of.

So-called "housekeeping" waste from plants and labs is usually packaged in steel drums and moved to AEC burial grounds (left) or to seaports for dumping at sea.

Other forms of waste, such as spent fuel, are highly radioactive. Reclamation creates concentrated refuse. Some must be stored "for hundreds of years" in underground tanks (bottom, right).





and the mystery of the dripping water was cleared up in a few hours. The car went on its way. Meanwhile, so the story goes, the railroad considered hiring a helicopter, arming it with a Geiger counter, and having it retrace the route the ominous box car had traveled.

This kind of concern among railroad officers is both good and bad—good in the sense that they, quite properly, are talking no unnecessary chances with these shipments; bad in that the necessary benchmarks for guidance have been too narrowly circulated and understood.

Accidents Have Been Rare

There are mitigating circumstances, to be sure. Accidents, either to personnel, or lading, have been extremely rare. Precautions to avoid them have been, if anything, over-elaborate. Atomic materials destined for use in reactor vessels or similar applications are carefully broken down to avoid any chance of a critical buildup in transit. The 1958 report of the Bureau of Explosives, issued two weeks ago, lists only three accidents involving radioactive materials for the entire year—and each instance was minor leakage of low-activity material.

What is needed, however, is for someone to try to put the whole matter of peacetime atomic uses, and the transportation challenge that goes with them, in some kind of context. Facts like these, for example, must be considered:

- In the utility field there are already 25 atomic-powered generating plants in operation, under construction or in varying stages of preconstruction development. It's obvious that more will be forthcoming. What this trend may eventually do to coal traffic is impossible to say. But one traffic officer says he can't see where railroads can come out ahead. As he puts it, "a fistful of this stuff will displace whole trainloads of coal."
- No less than eight states now have 100 firms, or more, using radioactive isotopes in some application or another. Shipments from AEC facilities at Oak Ridge, Tenn., many of which go by air, are running upwards of 1,000 a month.
- Eleven new U. S. uranium ore mills were completed in 1958 alone, along with two new facilities for preparing nuclear reactor fuel.
- Add to this the great number of other facilities already in the field—ranging from college-housed laboratories to AEC's own widespread facilities—and the total runs up fast. The Navy's move in the direction of a nuclear-powered fleet is still another straw in the wind.

Such statements do nothing more than hint broadly at the size of today's "atomic industry." They do suggest again, however, the nature of the transportation problem. For atomic energy is not being put to work in a cluster of plants in one location. Utility plants are located from New York to California. Radioactive isotopes are in use almost everywhere. Facilities devoted to the preparation of nuclear fuel—from refining ore to making fuel bundles for reactors—are cropping up in more and more places. And between all these points there are things to be moved—things ranging from relatively hamless U-238 ore to the very hot and highly radioactive spent fuel.

One of the more compelling transportation problems at the moment, not because it's so big so much as because it's so new, is in the handling of atomic waste materials. Such things include ordinary "housekeeping" waste—things which become contaminated by use at atomic plants or labs and have to be disposed of. Normally they are packaged in metal drums, which provide the required protection in transit, and are moved to disposal points. Sometimes this is inland to official AEC burial grounds. Other times it is to seaports, where specially-licensed disposal firms take the drums out to sea and dump them.

Fuel Efficiency Declines

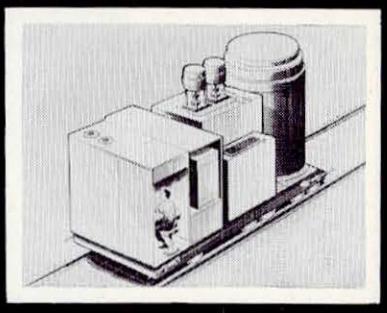
At the other extreme in waste handling is the spent fuel itself. Apparently few laymen realize that a nuclear reactor won't work at full efficiency indefinitely. Whether the reactor is in a submarine or a power plant, the fuel elements slowly build up "poisons" and become less efficient. In the case of Consolidated Edison's Indian Head power plant in New York, for instance, it's estimated that the fuel core will have to be changed out about every 600 days. Since it isn't possible to stop a reaction once it's started—"It's like turning on a light that you can never turn off"—the handling and disposal of this spent fuel becomes ticklish business all around.

One point should be made clear, however: Experts say flatly that this material will not explode and that it can be transported safely if proper precautions are taken. They do point out that it is highly radioactive and thermally hot. And since the AEC doesn't actually sell nuclear fuel to anyone, but merely "rents" it, spent fuel elements immediately come under AEC jurisdiction for packaging, transporting and disposal. This is one kind of waste not dumped in the ocean.

The AEC, instead, reprocesses the spent fuel to reclaim usable portions. So far, this job is handled only at

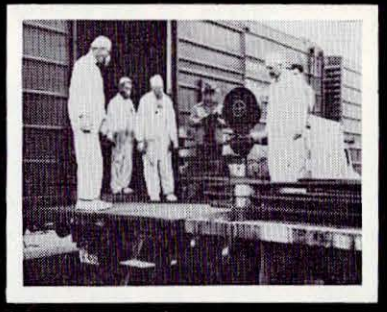
(*Continued on page 39*)

RADIOACTIVE MATERIALS: UNUSUAL TRAFFIC



Special cask car will handle spent fuel from power generating plant. Unit weighs 180 tons.

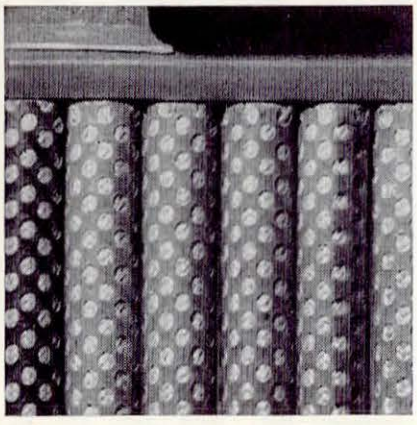
Lead-lined wooden box is shipping container for radioisotope. Note radiation checker.



Unloading uranium bars at AEC plant. All such "fuel" is carefully weighed.

How This Exide-Ironclad Diesel Locomotive Battery Saves You Money

—and is saving money right now for 76 American railroads



50 years and never been equaled. Exide first introduced the now-famous Exide-Ironclad tubular positive plate battery 50 years ago. All this time, users have consistently proved its superior power and greater economy. Latest improvement is armored porous tubing, shown above . . . packs more power into every plate . . . extends battery life.

1 Costs less to buy. Every dollar buys you more battery power even than for previous model Exide-Ironclads. That's because this improved design battery makes more efficient use of battery materials . . . packs its power into less space. Savings in manufacture are passed on to you.

2 Lower annual cost. The new armored porous tubular construction of the positive plates virtually eliminates loss of active material. So the Exide-Ironclad gives even longer life of service. Your investment goes farther. Annual battery cost is lower. And you get actually superior battery performance as a bonus.

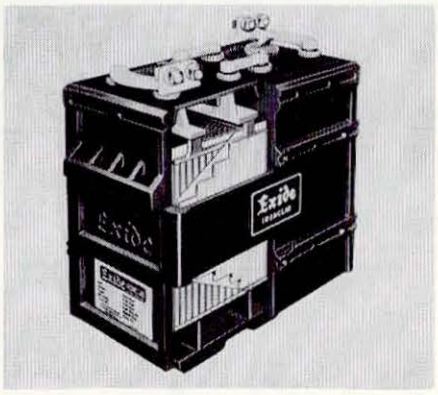
3 Reduces your spare battery requirements. It is today's most versatile diesel locomotive battery. Improved design Exide-Ironclad delivers full power for large locomotives. Yet it fits the battery compartments of many smaller ones. So every battery you have is more useful.

Not only greater economy, but unmatched performance too. That's what you get in the improved Exide-Ironclad: as much as 50% more diesel cranking power than other batteries of identical rating . . . an average of 100% greater capacity in quick recovery tests . . . longer sustained voltage for hard-to-start engines. These are some of the typical ways that Exide-Ironclad pays off in performance . . . and no other battery can match them.

Get the 8-page illustrated bulletin on Exide-Ironclad Diesel locomotive batteries. *And ask about details on the new, portable chargers for every diesel battery application.* Write Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 20, Pa.

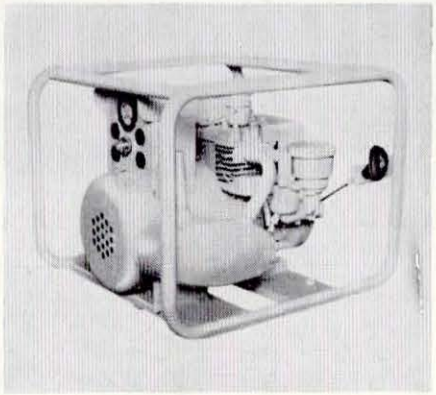
Exide®

New Products Report



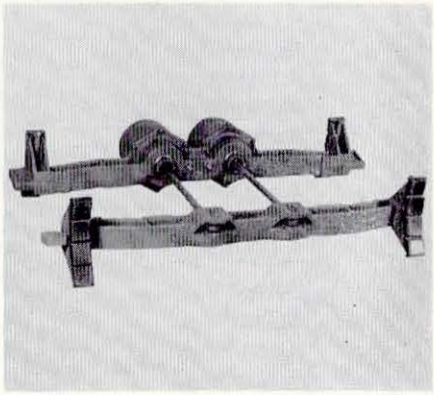
Storage Battery

The EG Exide-Ironclad passenger-car storage battery is rated at 75 amp hr per positive plate as compared with the up to 60 amp hr previously available. It is claimed to be lighter than any other lead-acid battery for the service and is available in 2-, 3- and 4-cell units, with 8-hr capacities ranging from 375 to 1,500 amp hr. *Exide Industrial Div., Electric Storage Battery Co., Dept. RA, Rising Sun and Adams Ave., Philadelphia 20.*



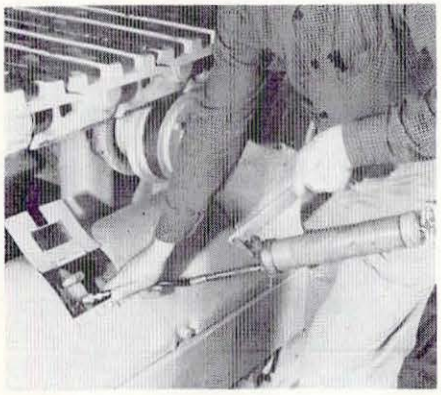
Generator Sets

A source of electric power for lights, portable tools and other electrically driven equipment, is provided by lightweight, air cooled portable generating sets. The generators, which meet AIEE and NEMA standards, are available in two sizes: 1250 watts 115 volts ac, and 1350 watts 125 volts dc. Each is compact, weighing less than 100 lb, and supported by a tubular frame. *United States Motor Corp., Dept. RA, Oshkosh, Wis.*



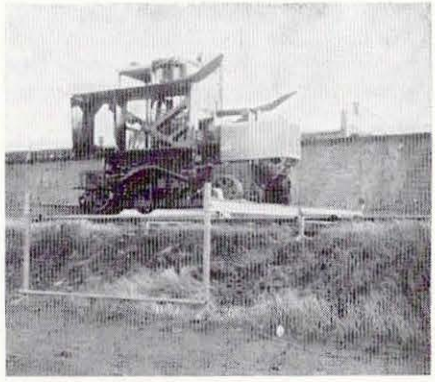
Freight-Car Brake Units

One Wabcopac brake unit, which is applied to each freight-car truck, reduces the number of parts on conventional cars from 62 to 35—a saving of 300 lb per car set. The unit uses the Cobra brake shoe, and needs no slack adjuster or manual slack adjustment during shoe life. Its three sizes correspond with the three conventional freight-car axle sizes. *Westinghouse Air Brake Co., Air Brake Div., Dept. RA, Wilmerding, Pa.*



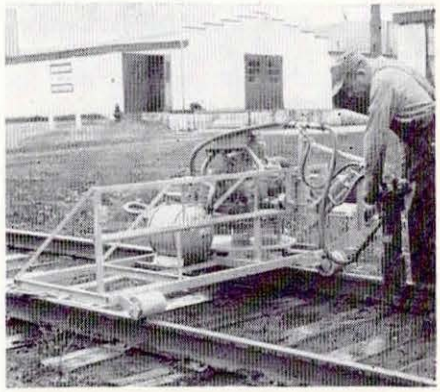
Crawler Tractors

Adjustment of track tension on crawler tractors is claimed to be made easier by the use of new hydraulic track-adjuster attachments. The method utilizes a standard hand-operated grease gun in place of the former system. It is claimed that track life is prolonged since operators, due to the ease of making the adjustments, are encouraged to correct track tension at proper intervals. *Caterpillar Tractor Company, Dept. RA, Peoria, Ill.*



Ballast Maintenance Car

A portable setoff and two-way ballast equalizing boxes are now available for use with the Fairmont W23 Ballast Maintenance Car. The boxes are equipped with a removable 4-ft blade and 76-in. and 10-ft bladers. The machine has a 6-cylinder engine, three-speed transmission and four-wheel drive. The unit can also be equipped with ballast plow, scarifiers, discs and track broom. *Fairmont Railway Motors, Inc., Dept. RA, Fairmont, Minn.*



Pneumatic Spike Driver

Rapid positioning of the hammer on each side of each rail is the feature claimed for a new pneumatic spike driver. The hammer, an Ingersoll-Rand Model PB8A, is supported on a sliding frame mechanism. A single-acting air cylinder lifts the hammer over the spikes, relieving the operator of this effort. Pressure is released to allow weight of hammer to be employed while driving. *Northwestern Motor Company, Dept. RA, Eau Claire, Wis.*

RIDE-ANALYSIS TRAIN consisted of engine and caboose for train crew, a combination car for the test crew and instruments, and two gondolas with special staging permitting 70-ton rail loads to be carried at varying centers of gravity. This test run was made with a 70-in. CG. Car near combo has long-travel springing; car near caboose has 1⅝-in. spring travel. Tests were made on DL&W main freight line.

Ride Tests Seek Loading Data

A new system of ride analysis has been developed by AAR's Research Center in Chicago. Basically similar to the inertial guidance systems used to stabilize missile platforms, the AAR device measures and records roll and pitch at selected locations on a moving car.

A series of test runs charting characteristics of differing centers of gravity has been completed this month. The test runs were made on the main freight line of the Delaware, Lackawanna & Western between Hoboken and Denville, N. J. (RA, Nov. 16, p. 7). Figures on vertical and lateral acceleration and displacement for varying locations and loads were obtained.

To Be Used in TOFC Studies

"We are applying this method of measurement to some of our clearance studies," says W. M. Keller, AAR vice president of the research department, "and we expect to use it in connection with piggyback shipments."

These data will be used in studies of clearance requirements, the effect of car motions on loads, and ride characteristics related to design of trucks, springing and track.

The new system for measuring ride characteristics was developed by the Research Center laboratory staff, under the supervision of Director of Engineering Research G. M. Magee. Randon Ferguson, AAR electrical engineer, was largely responsible for initiating the new method of measuring absolute vertical and lateral displacements simultaneously. Mr. Ferguson was in charge of the test trains.

The test equipment consisted of accelerometers and gyroscopes mounted in two test cars, from which they sent test data in the form of electrical impulses to recording instruments. Two DL&W gondolas were used for test cars. A DL&W combination car, in which the instruments were mounted, carried the test staff.

The two gondolas were provided with timber staging to permit loading approximately 70 tons of rails in each car at any of several different centers of gravity. The first test run was made with the center of gravity high. Successive runs lowered the center of gravity, and the final test measured motion under no-load conditions. One gondola was equipped with long-travel springing (3 11/16 in.) for a soft ride; the other had short-travel (1⅝ in.) springing.

Accelerometers to measure vertical and lateral acceleration and displacement were set up. Each car had two lateral accelerometers, one mounted high and one low, to measure possible differences in sideward motion at the top and bottom of the load. A single vertical accelerometer was mounted low on each car. These were all of the Wheatstone bridge type, providing electrical signals according to the varying resistance set up by the movement being recorded.

Signals from the accelerometers were amplified and filtered (to take out unrelated high-frequency vibration) and fed to two recording oscillographs, one for the long-travel spring car and one for the short-travel car. Impulses from the accelerometers were also fed to an oscilloscope for continuous viewing of the pattern of movement. A 35-mm camera attached to the oscilloscope was set to record the scope screen automatically at one-second intervals. The oscilloscope was switched from car to car at selected points en route.

What Oscillographs Recorded

Each oscillograph had pens recording six separate items: vertical acceleration, lateral acceleration, vertical displacement, lateral displacement on the low accelerometer, lateral displacement on the high accelerometer and a reading from a gyro unit showing the degree of body roll caused by track curvature. A speed recording tape and a speedometer were also hooked up, and test assistants recorded speed on curves and in other special conditions on the oscillograph roll. Milepost numbers were also added on the oscillograph and speed recorder charts.

The tests were held between milepost 5 out of Hoboken and Denville, (milepost 34). On two of the runs, the train continued past Denville over the old main line to Washington, to gather data on conditions on secondary track. Outbound tests were run at slow speed: 5-20 mph. Inbound, the tests were run at speeds up to 60 mph.

Three stops were made en route to measure static lean on curves with respective superelevations of approximately 2½ in., 4 in. and 6 in. These static figures will be correlated with the dynamic data. Individual railroads will eventually be able to figure dynamic results for particular types of equipment by making static lean tests and applying conversion figures.

New Service Proposed for Old Colony

Commuters from Boston's South Shore suburbs saw some hopeful signs recently, following a series of disappointments. First big disappointment was last summer's abandonment by the New Haven of passenger service on its Old Colony branch (RA, July 6, p. 48). The hopeful sign: the Mass Transportation Commission, created to find a solution to the Old Colony problem, finally came up with a plan. Here are the details, as reported to Railway Age by our unofficial observer and commentator on commuter developments in the Boston area, Southworth Lancaster (former railroader and university professor).

The Mass Transport Commission plan, recommended "in principle," is to build a rapid transit line from the Ashmont terminal of Boston's Metropolitan Transit Authority and take it cross-lots to an undisclosed connection with the Old Colony. This substitutes a connecting line—possibly as much as two miles long—for earlier proposals to connect Old Colony tracks with the MTA where the two properties are parallel.

The proposed line would have its southern terminal at South Braintree, with nothing said about extending the line beyond. Equipment will be rapid-transit type cars, suitable for operation over MTA lines. Fifty-two cars are proposed, with an additional 48 to be supplied by MTA if through operation is sanctioned. Cost estimates are $11,200,000 for track work, $6,300,000 for the 52 cars and another $6,000,000 for the MTA cars.

Meanwhile, a private group calling itself the "Boston, South Shore & Cape Cod Transit Company has disclosed plans for RDC service over much of the route operated by the New Haven before the Old Colony passenger abandonment. Initial operation would be under trackage rights from the New Haven, which is reported to be willing to make such agreements. A spokesman for the group announced that the railroad brotherhoods have indicated that they would cooperate with the new transit operator's plans to operate with one motorman per train and one trainman for each two cars.

Railroading After Hours with Jim Lyne

WORD FROM RIO—I have a note from Loyd Kiernan (a railroader who grew up on the IC and ended his active railroad career as executive vice president of the B&M). He's down in Rio de Janeiro on an advisory assignment, and he tells me that Brazil is getting set to hold the X Panamerican Railway Congress next year, beginning October 12, as scheduled.

Incidentally, one of the incidents in the career of the PRR's new president, Al Greenough, that we didn't mention in our piece about him (Nov. 9 RA), is that he won one of the top prizes at the IX Panamerican Railway Congress (in Buenos Aires a couple of years ago) for a paper on Reduction in Terminal Delays.

NARROW GAGE—What a stack of mail I've got on narrow-gage railroads! One letter is from K. S. Williams of Wyano, Pa., who has gone into the business of manufacturing small-gage steam locomotives—having first built a 15-in.-gage one as a pastime. Berton Logan of the Edaville Railroad Museum of South Carver, Mass., has sent me a memorandum about the railroad they have— 5½ mi. of main line and 1½ mi. of sidings, 2-ft gage.

They have quite a supply of rolling stock, which they keep in repair themselves, and they're planning to build some freight cars. They've been carrying passengers (just for the ride) to the number of more than 200,000 a year, ever since 1947.

I'm glad to see narrow gage and reciprocating steam engines, 2 ft gage or less, kept alive for museum purposes—but the important thing is to understand that the function such honored equipment serves is entertainment rather than transportation. There are some people who still want commercial railroads to carry on museum functions as a side line (if not in equipment, then in antiquated regulation, such as the "Fourth Section"). Antiquarian interests are praiseworthy, but it's just as well to keep them in a compartment that's separated from transportation as a business enterprise.

'THORNBEDDING'—I've been looking at the November 7 issue of the paper Labor—which has a cartoon conveying the thought that train and engine service employees are given a cactus bed to sleep on—instead of a "featherbed" as others assert.

Perusal of this issue of Labor would convey to the uncritical reader the impression that (1) railroads are enjoying profits far above those of the "golden 1920s" and are far ahead of airlines and trucks profitwise; (2) rules changes sought by managements are "inhuman"; (3) railroad officers are themselves the real "featherbedders," and are living the life of Reilly; (4) railroads are claiming nonexistent poverty, in order to get tax and other favors from government.

None of these conditions is true; and informed union people must know it. Polemics are to be expected in arguing an issue like this one—but making the railroads out to be prosperous, when they're at the very bottom of the heap in their rate of earnings, isn't going to help anybody except the railroads' competitors.

TEMPERATE ADVOCACY—Several railroads have taken the pains to explain—in friendly and temperate terms—the working rules issue. I recall IC President Wayne Johnston's statement (RA, August 10, p. 27). Most recent in the series is a small folder job, sent by President William White to D&H employees, and entitled "A Letter from the 'Old Man' " (RA, Nov. 9, p. 40).

There's a tough problem to be resolved here—and good will as well as good sense is necessary to get the right answer. Respect for able employees and concern for their welfare go hand in hand with a firm resolve to modify the rules.

B & O saves labor and material costs... gets thousands of extra miles of wear

This latest development in Pittsburgh's famous CARHIDE railway finishes gives improved appearance and extra years of protection with substantial savings in labor and materials.

• **It contains** rust-inhibitive pigments that eliminate need of priming coat. With a cross-coat application you get dry film thickness equal to conventional primer and finish coats. Dries so fast cars can be stenciled the same day.

• **Direct-to-metal** Hot-Spray CARHIDE goes on uniformly, adheres firmly and provides a smooth, extra-tough surface that assures armor-like protection to freight rolling stock for many thousands of extra miles even under the most severe operating and weather conditions.

• **For further information** just get in touch with Pittsburgh Plate Glass Company, Industrial Finishes, 1 Gateway Center, Pittsburgh, Pa.

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RPI Probes Financing Problems

► **The Story at a Glance: Railway equipment leasing—with or without government participation—will get a thorough looking over in coming months. Both the government-financed Federal Equipment Agency Plan and the privately-financed Railway Freight Car Co. proposal will be advanced for further study. Meanwhile, the loan guarantee provision of the Transportation Act of 1958 may get wider use. These are the findings of a Railway Progress Institute committee which has had all three phases of the railway equipment problem under study for the past 10 months. The committee's basic conclusion: a better understanding of the economic factors and principles involved in equipment financing will be required before an accurate evaluation of the alternatives can be made.**

RPI's Railway Supply Financing Committee is going to the source—the financial institutions—in its efforts to dig out the basic knowledge required before any evaluation of equipment financing methods can be set up. It's a "look ahead" move. RPI's committee wants to know the actual money requirements of the railroads for equipment on an annual basis over the next 10 years. It also wants to know the expandability — or lack thereof — of private investment capital available to the railroads and the degree to which private money sources can cover the industry's needs. Subcommittees of the basic supply financing group have been surveying "three manifestations of the equipment financing dilemma of the American railroads"—the guaranteed loan, the private-credit approach and the so-called Symes Plan. Here's the committee's rundown on the three plans:

● Guaranteed loans: Twelve applications have been filed by seven carriers. Five loan guarantees have been approved. In the committee's opinion, "as familiarity with this law on the part of the lenders, the railroads and the ICC increases, the loan guarantee idea will provide some of the limited assistance intended."

● The Railway Freight Car Co. proposal: Indications are this plan, long-discussed in generalities, will be given to a group of western roads in concrete terms in the near future. The proposal, RPI's committee notes, "is intended by its supporters to accomplish many of the aims of the Symes Plan but without government participation. This would pool the credit of many railroads through a separate-corporate entity which purchases freight cars for leasing to its members."

● The Federal Equipment Agency Plan (Symes Plan): The proposal, involving creation of a federal agency to purchase and lease equipment, will be before Congress again in its next session. Both PRR Chairman James M. Symes and Pennsylvania Congressman Van Zandt, the RPI committee says, "believe that the plan will be actively discussed in the next Congress." The committee has taken no position to approve or disapprove any of the plans, existing or proposed. It does note that "a return to the fundamentals of railroad equipment financing will help it (the committee) to resolve some of the confusing aspects of this situation and to make constructive recommendations." These are the fundamentals which the committee is seeking in conferring with financial institutions close to the rail equipment situation. C. F. Venrick, of American Car and Foundry Division, is chairman of the group, with C. A. Benz, of Chicago Malleable Castings, as vice chairman. The group's report was presented to RPI's annual meeting last week in Chicago. Other highlights of RPI committee planning for 1960:

● Executive development—RPI will sponsor (next February at Highland Park, Ill.) a railroad sales development seminar on the theme "The Changing Problem of Selling to the Railroads." The seminar will be for railway supply sales personnel only, will be limited to 100 conferees. In a second major project, the Institute plans to sponsor publication of a text on the development of corporate management, written by George N. Daffern, of Canadian National.

● Passenger traffic research—RPI's special research report has been circulated among railroad passenger traffic officers (about 225 PTO's from more than 50 roads). A revised text is now under study.

● Emergency planning—RPI's committee anticipates that the U.S. Department of Commerce will call a meeting of the Railway Supply Industry Advisory Committee early next year.

● Piggyback development — First phases of a market survey have been completed and are under study. Subsequent phases of the study are being developed.

Resolutions passed at the annual meeting of the RPI:

● Urged railroad management and labor to "exercise the highest degree of statesmanship" in current contract negotiations and to avoid "recriminations, exaggerations and adamant stands which can only lead to a stalemate and a strike."

● Urged management and labor to agree on a new set of work rules tailored to fit railroading of today and designed to enhance the possibility of more profitable operation of the railroads, thus assuring the nation of more efficient and economical rail service and the employees of a higher degree of job security.

● Approved creation of a committee on metropolitan transportation development to study and seek solutions to problems of rapid transit and commuter service in approximately three dozen metropolitan areas, including the nation's largest cities.

Labor Holds Key to '60

If strikes can be avoided, AAR Pres. Daniel P. Loomis said last week, "1960 could well be one of our biggest post-war years." But, he warned, "the outlook on the labor front is anything but predictable. Railroads are launched on a determined effort to revise the old work rules that so block progress. Much of our future depends on success in this effort."

Labor won't be the industry's only point of emphasis next year. "At the same time," Mr. Loomis noted, "we will once again be knocking on the door of Congress for further remedial action on those competitive inequities that also hold us back and it would appear that at least concrete tax measures to stimulate investment and purchases are rapidly coming within reach."

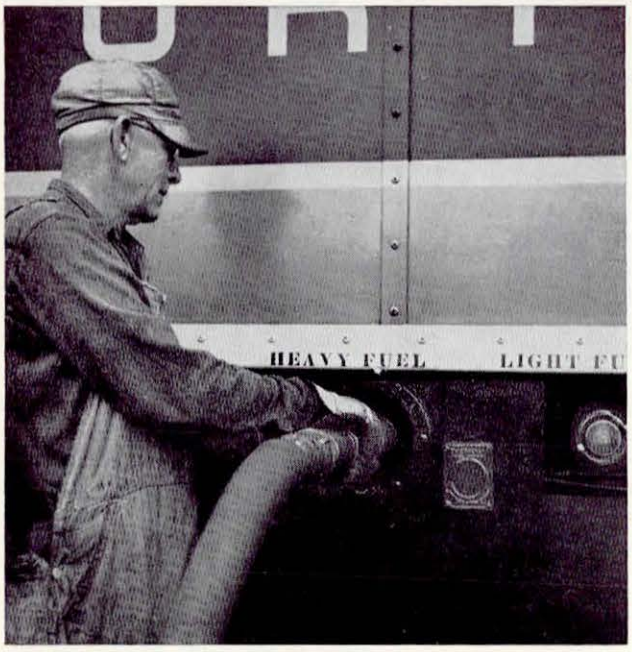
Mr. Loomis' remarks were prepared for delivery at the RPI's annual dinner last Thursday evening in Chicago. About 1,000 railroad and supply company officers attended the affair.

AAR's President hailed the supply industry's aid in supporting passage of the Transportation Act of 1958 and added: "in the final analysis, there would be no railroad industry without the tools of the trade which you supply to keep steel wheels rolling across America."

Great Northern's famed "Empire Builder" at Union Depot, St. Paul, enroute to Seattle. Mobil has been a

How the Great Northern meets the challenge

Using new ideas and equipment, this railroad cut maintenance costs by $14 million, while rolling up over 15 billion revenue net ton miles



GN heavy fuel experiments. Two EMD engines have been successfully converted into dual fuel units, running on light fuel at low speeds, on heavy fuel at higher speeds. Mobil supplies special diesel lubricants with suitable qualities for this severe operation.

The GN approach to modern railroading is summed up by the railway's slogan, "Progress is a Great Northern Habit." Translating that thought into action, Great Northern constantly seeks to improve efficiency and lower costs. How? By using the most modern operating and maintenance techniques available and by experimenting and innovating to develop still better techniques.

Examples of this progressive approach are evident throughout the GN operations. Stores department inventories are computer controlled . . . freight traffic is sorted electronically at GN's Gavin Yard . . . trackage is laid and ballasted with the latest equipment. Maintenance practices are also highly advanced . . . center around the "production-line" concept. It all adds up to a highly efficient and profitable operation through the best use of men, machinery and products.

Mobil

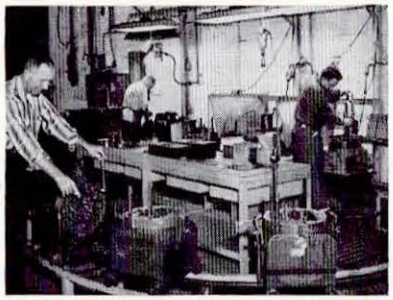
RAILROAD PRODUCTS

99 years of helpful association with America's Railroad Industry

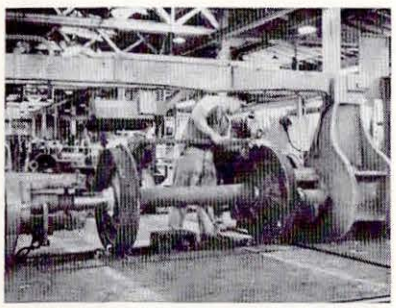
reliable supplier of diesel lubricating oil to GN for over a decade.

# of modern railroading...

Mobil diesel engine analyzer is used by Mobil RR Engineer Ed Fremon, GN's Carl Stendahl (Supervisor, Diesel Shop Methods and Practices). Device provides pressure, injection and timing information on as many as 8 diesel cylinders at one time.



Engine overhaul. "Production-line" maintenance techniques are the rule in GN's Dale Street Shop. Here Supt. Adam Schuck checks cylinder heads which are being rebuilt. On this line, valve seats are ground and new or reconditioned valves are installed.



Modern wheel mounting shop. Wheels and axles are mounted with hydraulic machinery, activated by push buttons. New or remachined wheels are fitted to precisely machined axles, and smooth, tight mounting is achieved with the help of Mobil Wheel Mounting Compound.

Filter maintenance. Air filters are rinsed, washed, bath oiled and centrifugally drained in this specially modified version of a commercial machine. Action takes place at Minneapolis Junction Yard.

HOW MOBIL IS PREPARED TO HELP TODAY'S RAILROADS MEET THIS CHALLENGE

Mobil lubricants, Mobil diesel fuels, and Mobil experience play a prominent part in the operation and maintenance of railroad rolling stock. Here are some of the ways in which Mobil may be able to help you:

PRODUCT—Mobil products have proven themselves in actual performance on America's leading railroads. They're always of highest quality . . . uniformly consistent.

RESEARCH—Mobil's never-ending research on fuels, lubricants, and refining processes results in continually improved products for you.

SPECIAL PERSONAL SERVICE—Mobil laboratories assist customers with specific problems involving application of products.

ENGINEERING ASSISTANCE—Mobil service men average over 25 years' experience. These men understand not only petroleum products . . . but railroading, too.

TECHNICAL INFORMATION—Mobil freely distributes technical information to interested railroad personnel. Both the pros and cons of technical problems are thoroughly and frankly presented.

SUPPLY POINTS—Strategic location of 13 refineries and 20 product compounding plants provides convenient supply points.

Erie Schedules Faster Freight

As part of the new fast freight routes between Boston-Chicago and Boston-St. Louis (RA, Nov. 16, p. 10), the Erie put into effect November 9 new schedules that will permit saving up to 24 hours between Midwestern points and New England. The Erie's new schedules between Chicago and Boston connect with the D&H-B&M route through Binghamton, N.Y. and with the New Haven through Maybrook, N.Y. The schedules have been made up specifically to meet the demands of piggyback and forwarder carload traffic.

Eastbound from Chicago, cars travel in Erie's long established fast freight, No. 100. Departing Chicago at 8:00 p.m., this puts cars in Binghamton for the D&H connection at 9:30 p.m. the first night out. Via the D&H cars for the B&M from Binghamton, arrive in Mechanicville at 3:45 a.m., second morning from Chicago and, via the B&M, are in Boston at 10:45 a.m., second morning.

The same train, No. 100, also makes connections at Maybrook for the New Haven, arriving at 3:00 a.m., second morning from Chicago. The New Haven's connecting train arrives at Cedar Hill, New Haven, at 7:00 a.m., Providence at 9:30 a.m. and Boston at 10:30 a.m., all on the second morning from Chicago.

Westbound, New Haven schedules departure after close of business at Boston, Providence and New Haven for arrival at Maybrook at 9:30 p.m. the same night. From Maybrook, Erie's existing train No. 99 leaves at 11:15 p.m., for arrival at Chicago at 2:00 a.m., the second morning out of New England. The same train picks up cars from the B&M-D&H route at Binghamton at 5:15 a.m. To make this schedule, cars leave Boston on the B&M at 6:00 p.m. the previous night and Mechanicville at 12:30 a.m. the same morning.

Erie is also offering second morning service on carload forwarder traffic from New England to St. Louis via Lima-NKP for arrival at 8:00 a.m. the second morning from points in New England.

SP Cites Benefits of Diversification

What's the big hope for transportation of the future? The "evolution of complete transportation companies capable of meshing all modes of transport under one management to fit the particular needs of individual shippers," according to W. G. Peoples, Southern Pacific vice president—system freight traffic, in a prepared speech.

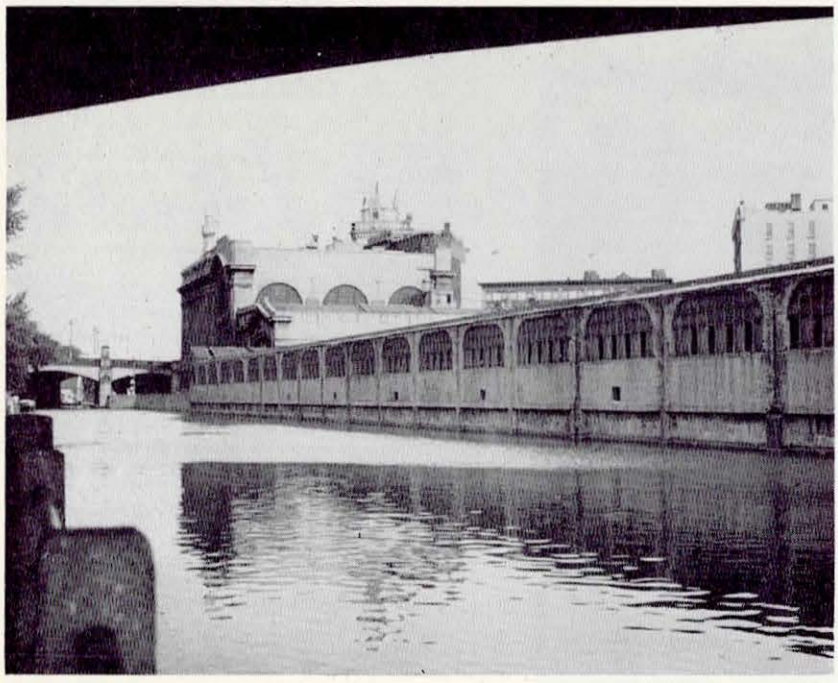
Each mode of transport has its built-in virtues, and "it's in the effective combination of these virtues that we'll find the way to better service," Mr. Peoples told the Fourth Annual Southwestern Transportation Seminar in El Paso, Tex.

SP can quote chapter-and-verse on the advantages of diversification as few roads can. Mr. Peoples comented on one instance: shipper and public benefits from SP's entry in the pipeline business, which now includes lines from Southern California and El Paso into Arizona and from the San Francisco Bay area into Nevada. Gasoline and other petroleum products, he said, "are moving far more economically than they could by rail. To illustrate: gasoline and diesel fuel prices were reduced 1 to 1½ cents per gallon at the wholesale tank truck level in central Arizona as soon as the Southern Pacific pipeline went into operation."

But while pipeline operations have been gratifying all around, other diversification has been stymied, at least in part.

"We are not allowed to obtain the maximum advantages from truck use in our interstate trucking operations," Mr. Peoples commented, "with the result that much of the service they could render to the shipper is needlessly sacrificed. And we are entirely denied the right of any effective ownership or participation in interstate air transport."

Still, he said, "I look forward to the time when an easing of the restrictions permits the evolution of complete transportation companies."



Ottawa's Union Station to Come Down

Canada's Federal Government has given its approval to plans for relocating rail passenger facilities in the Canadian capital. The CNR and CPR, which use the present facilities jointly, will work together with the National Capital Commission on plans for a new $5,000,000 Union Station. At the same time, supporting yards and other facilities will be relocated. The total cost of the project, over a five-year period will be $20,000,000. Twelve miles of track, including 11 grade crossings, will be eliminated entirely under the new plans.

MARKET OUTLOOK *at a glance*

Carloadings Rise 13.9% Over Previous Week's

Loadings of revenue freight in the week ended Nov. 14 totaled 638,408 cars, the Association of American Railroads announced on Nov. 19. The Nov. 14 figures were affected by the reopening of the steel mills after the 116-day strike, the AAR said. This was an increase of 77,750 cars, or 13.9%, compared with the previous week; a decrease of 6,123 cars, or 0.9%, compared with the corresponding week last year; and a decrease of 8,889 cars, or 1.4%, compared with the equivalent 1957 week.

Loadings of revenue freight for the week ended Nov. 7 totaled 560,658 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, Nov. 7

District	1959	1958	1957
Eastern	80,300	98,265	103,156
Allegheny	78,093	114,137	127,781
Pocahontas	44,336	53,166	57,774
Southern	117,479	117,073	120,278
Northwestern	65,281	87,375	91,255
Central Western	124,240	137,048	125,127
Southwestern	50,929	51,378	50,208
Total Western Districts	240,450	275,801	266,590
Total All Roads	560,658	658,442	675,579
Commodities:			
Grain and grain products	61,992	64,989	50,208
Livestock	9,806	9,802	10,723
Coal	105,219	118,602	131,175
Coke	3,319	8,581	9,222
Forest Products	40,812	38,499	37,389
Ore	11,577	44,321	46,079
Merchandise l.c.l.	40,927	45,493	52,315
Miscellaneous	287,006	328,155	338,468
Nov. 7	560,658	658,442	675,579
Oct. 31	588,148	674,991	713,994
Oct. 24	607,347	674,845	703,688
Oct. 17	580,768	696,403	726,812
Oct. 10	558,780	686,521	741,520
Cumulative total, 45 weeks	26,773,014	26,234,904	31,445,478

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Nov. 7 totaled 8,121 cars, compared with 6,737 for the corresponding 1958 week. Loadings for 1959 up to Nov. 7 totaled 358,211 cars, compared with 235,181 for the corresponding period of 1958.

IN CANADA.—Carloadings for the ten-day period ended Oct. 31 totaled 119,265 cars, compared with 87,857 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
Oct. 31, 1959	119,265	41,569
Oct. 31, 1958	126,026	39,183
Cumulative Totals:		
Oct. 31, 1959	3,247,934	1,164,480
Oct. 31, 1958	3,179,001	1,176,299

New Equipment

FREIGHT-TRAIN CARS

► *Reading.*—Acquired 466 50-ton hopper cars under a leasing arrangement with United States Railway Equipment Co. Deliveries are being made at a rate of 10 to 12 cars per day.

LOCOMOTIVES

► *Republic of Ireland.*—Ireland's transport organization (CIE) is seeking bids on 15 road-service diesel units with individual minimum ratings of 800-hp, on 14 diesel switchers with minimum ratings of 400-hp, on seven 160-hp switchers, and on 14 diesel engine and transmission sets similar to those to be used on the 400-hp switchers.

New Facilities

► *Norfolk & Western.*—American Bridge Division of U. S. Steel, Roanoke, Va., will furnish and erect structural steel spans for new tracks connecting the N&W main line with the Virginian. A contract totaling $245,000 will provide for bridges at Roanoke, Va., and Kellysville, W. Va., plus three other bridges on the two connecting rail lines. Earlier, four contracts totaling about $440,000 were awarded Ralph E. Mills, Inc., Wiley N. Jackson Co. and B. F. Parrott & Co., Inc., all of Roanoke, for the 1.53-mi line that will connect the two roads at the eastern boundary of Roanoke. The connection is expected to be ready for traffic in June.

Purchases and Inventories

► *Eight Months' Purchases Up 26.9%.*—Purchases by domestic railroads of fuel, material and supplies in this year's first eight months were $222,201,000, or 26.9%, higher than in the comparable 1958 period. Purchase and inventory estimates in following tables were prepared by Railway Age.

*PURCHASES**

	August 1959	Eight Months 1959	Eight Months 1958
	(000)	(000)	(000)
Rail	$ 1,034	$ 55,441	$ 31,895
Crossties	4,203	35,101	25,774
Other Material	81,128	708,047	520,767
Fuel	27,106	248,771	246,723
Total	$113,471	$1,047,360	$825,159

*Subject to revision.

*INVENTORIES**†

	August 1, 1959	August 1, 1958
	(000)	(000)
Rail	$ 63,402	$ 61,490
Crossties	70,880	90,174
Other Material	426,145	450,249
Scrap	25,894	24,658
Fuel	20,810	20,776
Total	$607,131	$647,347

*Subject to revision.
†All total inventory figures taken from ICC statement M-125 for month indicated.

NIT League Backs RRs on Major

► **The Story at a Glance: In a rapid-fire series of far-ranging decisions, the National Industrial Traffic League has gone on record as approving essential features of the railroad position on nearly every major policy question now confronting the carriers.**

The decisions—taken at the shipper group's 52nd annual meeting, in Chicago, Nov. 12-13—either reaffirm or add to the League's previously established general policies on subjects extending from featherbedding to routing of LCL freights.

Strong backing for the railroads on a wide variety of policy matters was recorded by the 630 industrial traffic managers who registered for the National Industrial Traffic League's 52nd annual meeting at Chicago the week before last.

With almost complete unanimity, the shippers went on record as opposing featherbedding. Without a dissenting vote, they favored depreciation-accounting changes advocated by AAR President Daniel P. Loomis in a Nov. 12 luncheon address to a near-overflow shipper-carrier audience (RA, Nov. 16, p. 10). With less-than-unanimous, but strong majority, action, League members also voted in favor of user charges on all types of transportation, and supported the railroad stand on common ownership of other modes. In addition, they backed the railroads generally on a number of relatively minor, less controversial, issues.

In the light of current railroad wage and working-rule negotiations, the League's most important single action was probably its opposition to featherbedding. That was expressed in the accompanying resolution—adoption of which was preceded with the explanation that it would be implemented, "as deemed necessary," by League officers.

On user charges, the League endorsed "the principle that users of transportation facilities created, improved, and maintained by public funds for transportation purposes, should pay a reasonable user charge determined by appropriate authority, and reflecting the extent and character of use made." This supplements the League's 1958 approval (RA, Dec. 1, 1958, p. 8) of "reasonable user charges" on "waterway facilities created, improved and maintained by public funds for navigation purposes"—and a parliamentary effort to have that earlier action rescinded led to the only opposition recorded at Chicago to the new and broader endorsement of user charges on all types of transportation.

Action on "common ownership or coordination" of one form of transportation by or with another also produced opposition—but only from those who wanted to make the League's position even broader and more liberal than recommended by its Committee on Transportation Outlook and Policy. As in the case of user charges, however, the committee recommendation prevailed, adding to the League's standing principles the following clarifying paragraph:

"No proposed acquisition of ownership or coordination should be denied solely on the ground that the carriers are in different fields, as rail and motor, rail and water, motor and water. It is highly essential, however, that the statute require the maintenance of competition and preserve the [Interstate Commerce] Commission's power to impose restrictions. The statute should qualify this power by providing it shall not be exercised 'unless and to the extent that the Commission finds, on the evidence after hearing, that such denial, terms, conditions or limitations are necessary to prevent undue restraint of competition.'"

On changes in railroad depreciation accounting, the League voted to "support the principle and objective of proposed legislation for permissive election for purposes of income tax relief of 'reasonable allowances' for depreciation of rolling stock or other property." Only qualifications were that such "relief" should be "limited to amendments of the Internal Revenue Code," and that there should be no change in ICC accounting regulations "unless and until, after hearing and due investigation, the Commission finds changes in its uniform system of accounts and depreciation requirements appropriate and lawful."

Wants New Methods Tested

The League also voted, or reaffirmed, support for the railroads on a number of other matters—mostly non-controversial, at least as between different forms of transportation. In actions of this type, it:

- Adopted, as a "general policy," the position that "support should be given to proposals by carrier managements of new methods or techniques of rate-making which lend promise of improvement of the revenues, and to increase or preserve the traffic of the carriers proposing them, with apparent benefits to the interested shippers, and without creating destructive competition."
- Ratified action of its officers in intervening before the ICC in general support of the principle of the railroad positions in Docket No. 32533 and related cases, involving Plans III and IV piggyback and forwarder use of those plans, and in I&S No. 7151, involving a "guaranteed rate" filed by Soo Line.
- Rescinded its 1958 opposition to the so-called "Symes plan" to establish a government agency for owning and leasing railroad equipment.
- Voted to "continue its efforts to secure complete repeal of the transportation tax on passengers."

'Archaic'—or 'Fair and Flexible'?

"The transportation industry is making an intensive and determined program to eliminate certain archaic work rules and unwarranted requirements or payment for work that is not needed or not performed. Such rules and requirements have the effect of increasing the cost of transportation while depressing the efficiency of the service, and without any real benefit to the employees.

"The [National Industrial Traffic] League has a primary concern for sound economic conditions in transportation and the encouragement of fair wages and equitable working conditions in accordance with the National Transportation Policy . . .

"It is the policy of the . . . League that all archaic work rules which are inconsistent with modern operating practices or which are inconsistent with sound economic conditions in transportation should be eliminated; and that the League is in favor of fair and flexible work rules which are in harmony with modern economical transportation methods."

Policy Questions

• Agreed—"until the Transportation Act of 1958 has been in effect long enough to provide a true test of its adequacy"—to oppose restricting amendments to the passenger-train discontinuance sections of that act.

• Gave approval to the reorganization of the Railway Express Agency.

Favors RR Routing Trial

Additionally, the League went along with a recent proposal of Eastern railroads for a one-year trial of railroad routing of LCL freight—but made clear that such approval should not be construed as denying a shipper's long-standing right to control movement of his freight. Action on this point was double-barreled, embodied in the two following resolutions:

1) "The League supports the principle of the shipper's right to route freight as to any category of traffic; submits that carriers may not restrict such right of shipper's choice of any route over which traffic may move which is provided in published tariffs."

2) "Recognizing and preserving the right of the shipper to select the initial carrier and direct the routing of his shipments over any route available under the published tariffs, it is highly desirable that LCL traffic should move over routes designed to improve service and better utilization of carrier equipment. Since the League has been appealing to the railroads to take concrete steps to improve service, the League recommends that its LCL, Merchandise and Small Shipments Committee cooperate with the railroads in their efforts to effect these improvements.

"It further recommends that the chairman of that committee be instructed to meet with the Eastern carriers to work out some satisfactory basic ground rules which will give shippers and receivers knowledge of how shipments will move during this proposed trial period."

Change in HD Charges

In other actions, the League voted to oppose a railroad-proposed rule to the effect that there would be no carrier obligation to furnish nor to clean covered hopper cars; but it "removed its record of opposition" to application of special loading and detention charges on certain types of heavy-duty flat cars "so users of these cars can endeavor to negotiate with the carriers additional income to permit economic feasibility of adding new cars users will require in the next five years."

It also reaffirmed its opposition to penalty per diem charges, as well as to "legislation giving the ICC authority to impose so-called 'incentive per diem charges' based upon the value of the use of the car to the owner or which may be used as an instrument of regulation for movement of freight cars or to encourage acquisition and maintenance of a car supply adequate to meet the needs of commerce and national defense."

Opposes Cabinet Post

The League continues to oppose "establishment of a Department of Transportation" under a Cabinet secretary; wants to continue consideration of a simplified freight claim form with both railroads and motor carriers; opposes "detrimental" changes in highway safety regulations; and agrees to continue its scrutiny of "effects of and remedies for illegal transportation operations."

W. H. Ott, general traffic manager, Kraft Foods, Chicago, continues as president of the League. R. M. Boyd, general traffic manager, Pittsburgh Plate Glass Co., Pittsburgh, was elected vice president, to succeed G. O. Griffith, deceased; and R. A. Cooke, traffic department manager, American Newspaper Publishers Association, New York, was elected treasurer of the organization.

The League's 1960 meeting will be held at New York's Commodore Hotel, Nov. 17 and 18.

As the Publisher Sees It . . .

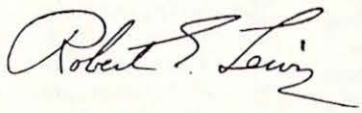
Getting away from the work-a-day distractions that are inevitable at headquarters is pretty common practice for staff conferences in many businesses, but when the president and entire staff of a busy railroad leave the property en masse, for a three-day meeting, it's news.

That's what Mr. Goodfellow and 16 policy-making officers of the Long Island did earlier this month. They met at Shawnee Inn (of Fred Waring fame) near Stroudsburg, Pa.

Outsiders joined the railroaders in some of the discussions of various aspects ot management. Outlines of new policies and procedures formulated at the meeting are to be implemented at a series of inter-departmental meetings on the property next month.

"I'm convinced—and I think every member of the staff feels the same way," Mr. Goodfellow asserts, "that we were able, in the short space of three days, to make more progress in our overall thinking and planning than perhaps has been possible in all the five years of our rehabilitation program."

Only trouble with a session like this is that a railroad has to be already pretty well organized and operated to enable its top staffers to leave the property for three whole days.



Montreal Weighs Subway Line

A subway may be in the offing for Montreal. A private company, La Societe d'Expansion Metropolitaine, has submitted detailed plans for an initial 7.75-mi. system that would cost about $117,000,000.

The plans call for a system similar to the Metro in Paris, with cars running on rubber wheels.

Initial construction would require about five years and involve 16 stations. Trains could traverse the distance in 24 minutes, carry 40,000 passengers an hour. To do this, 160 cars would be needed: 144 for maximum use; 16 as spares.

Marcel Piche, president of La Societe d'Expansion Metropolitaine, has said that financial backing has been obtained from New York and Canadian investment houses. Some $87,000,000 would be needed for initial capital construction costs, $30,000,000 more for equipment.

The system would be financed through the sale of debentures in four issues and refinanced in 20 or 25 years, with loans repaid over a 50-yr period.

The initial 7.75 miles would be but the beginning of an eventual 23-mile system to serve the 1,750,000 people of the Montreal metropolitan area.

La Societe d'Expansion Metropolitaine would build the line, which would then be taken over by the city or the Montreal Transportation Commission.

Harvey L. Willard
NYC

Frank P. Soen
NYC

Harry A. B. Brown
NYC

John Dan, Jr.
NYC

Frank J. Zika
SP

Clifford H. Ramsdell
Deegan

People in the News

CENTRAL OF GEORGIA.—**H. C. Douthit,** general foreman, Savannah, appointed supervisor diesel locomotive maintenance, Macon, Ga., succeeding **C. H. Carroll,** named master mechanic, Columbus, Ga. **W. H. Leavengood,** assistant master mechanic—system, Macon, appointed engineer of maintenance methods and procedures, Savannah.

CHESAPEAKE & OHIO.—**H. Preston Henshaw,** special representative, office of assistant vice president, Huntington, appointed special assistant, office of vice president—coal traffic and development, Cleveland, Ohio.

CHICAGO GREAT WESTERN.—**J. C. Dodd** named general manager, Kansas City, Mo., to succeed **B. N. Howery,** promoted to assistant to president at that point.

NEW YORK CENTRAL.—**Harvey L. Willard,** director of coal sales, New York, promoted to assistant vice president—freight sales and service, Chicago, succeeding **David S. Mackie,** who will retire Dec. 1. **Frank P. Soen,** assistant vice president—freight sales and service of the NYC's affiliate, **Pittsburgh & Lake Erie,** at Pittsburgh, will become director of coal sales. **Harry A. B. Brown,** assistant freight sales manager, Pittsburgh, will succeed Mr. Soen. **John Dan, Jr.,** manager of industrial development, Cleveland, will become freight sales manager at Pittsburgh. **Bernard P. O'Connor,** assistant manager of industrial development, New York, succeeds Mr. Dan.

SOUTHERN PACIFIC.—**Frank J. Zika,** assistant freight traffic manager—rates and divisions, San Francisco, appointed to the newly created position of freight traffic manager, rates and divisions there. **R. C. Hudson,** general freight agent—rates, named assistant freight traffic manager—rates and divisions, San Francisco, to succeed **B. J. Combs,** who retired Oct. 31. Mr. Hudson's successor is **James H. Lyons,** assistant general freight agent, who in turn is replaced by **William H. Francis,** commerce agent.

J. N. Cetinich appointed special assistant to general manager, San Francisco.

Harry J. Richardson, general passenger agent, Chicago, retires Nov. 30.

OBITUARY

Edward P. Burke, Sr., 82, retired passenger traffic manager, **Pullman Co.,** died Nov. 10 in Community General Hospital, La Grange, Ill.

Supply Trade

Clifford H. Ramsdell has joined **Thomas J. Deegan Company, Inc.,** as a vice president. Mr. Ramsdell was formerly director of advertising of the **New York Central.**

Walther C. Fischer has been appointed director of engineering of **Fairbanks, Morse & Co.,** at Chicago, succeeding **Gordon R. Anderson** (RA, Oct. 12, p. 38).

William R. Lockridge has been appointed director of market planning of **Servo Corporation of America,** Hicksville, N. Y.

Raymond T. Leary, vice president and sales manager of the Distributor division of **Cornell-Dubilier Electric Corp.,** South Plainfield, N. J., has been appointed general sales manager, a newly created position.

Spring Packing Corp., Chicago, has announced the formation of a new management team. **George L. Rutherford** is vice president and sales manager. **James F. Griffin, Jr.,** has joined the corporation as vice president and treasurer. **Walter J. Maker** heads up the manufacturing operation as president of the manufacturing subsidiary, Laytile, Inc. **Robert W. MacDonnell** has been named field supervisor in the research and manufacturing areas. Mr. MacDonnell has 15 years of railroad mechanical department experience. **Thomas L. Andersen** has been appointed assistant sales manager.

William L. Long has been named manager of the transportation—industry marketing department, **Remington Rand Univac Division, Sperry Rand Corp.,** New York, succeeding **G. W. Helm,** who has been named manager of industry marketing. Mr. Long was formerly assistant manager of transportation.

Evans Products Co., Plymouth, Mich., and the **Vancouver Plywood Co.,** Vancouver, Wash., have joined in the construction and operation of a $2,500,000 plywood plant at Missoula, Mont. The **Van-Evans Co.** plant will be built on land leased from the Northern Pacific, with construction scheduled to begin next spring.

John A. Wagg has been appointed sales manager of the **Crucible Steel Company's** Spring Division.

Robert E. Pierson has been appointed commodity manager of the transportation products department of the footwear and general products division of the **United States Rubber Co.**

ALCO Products, Inc., has concluded an agreement with **Associated Electric Industries Limited** of London for joint collaboration in the design, manufacture and sale of diesel-electric locomotives of 900 horsepower and higher for world markets.

Rollin B. Burton, Jr., has joined **Archer-Daniels-Midland Co.** as sales representative for ADM's freight liner system to eastern and southeastern railroads, with headquarters at 225 Broadway, New York 7.

Robert L. Westrum appointed manager for original equipment sales of **D. W. Onan & Sons, Inc.**

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IN KANSAS CITY IT'S THE BELLERIVE HOTEL
100% AIR-CONDITIONED

SHIPPING THE ATOM

(*Continued from page 25*)

three AEC plants. To get the material from point of use to point of reprocessing is a job for which railroads are, by their very nature, almost ideally suited. The private right-of-way and the capacity to handle heavy, concentrated tonnage both come into play—the former permitting the handling of potenially hazardous material off public thoroughfares; the latter permitting use of extra-heavy special containers. These containers are "lead-lined," fitted with paraphernalia to dissipate heat, and weigh up to 100 tons or more with very little cube. One company is working on a design now that will run 180 tons. It will have to be handled as a special car, and will cost an estimated $700,000 to build. This design is subject to rigid requirements of the AEC, as are all container designs for handling radioactive materials. The Bureau of Explosives is active in this area, also. Among other things, containers must be such that gamma radiation will not exceed a completely-safe 200 milliroentgens per hour at any surface point, or 10 mr/hr at a 1-meter distance. Containers, moreover, must be capable of holding their contents "under the most extreme conditions."

Despite this concentrated attention to container design, plus the fact that shippers must be licensed by AEC and riders often accompany special shipments, railroad lawyers have been concerned with carrier liability. A special committee worked on this problem for months, and railroads now have a "keep whole" contract in case some AEC-billed shipment should be caught in an accident.

Spent fuel and various forms of contaminated refuse are, in a sense, by-products of the atomic age. They are, by no means, the only radioactive "products" being handled in interstate commerce.

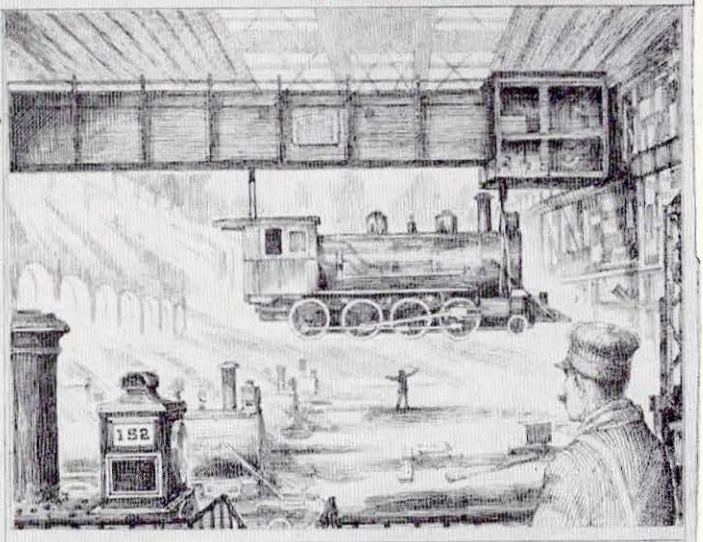
Far more shipments involve radioactive isotopes. These are used in food processing and agriculture, in research, development and testing, in paper-plastics, chemistry, electronics, medicine and a host of other industries.

And as is true of most radioactive materials, the potential hazards in handling and shipping isotopes vary widely. The radioactive isotope of one element may have a half-life of a few days, which is to say it loses half its strength each 24 hours. Another may be measured in years. Spill one, and the contamination is quickly gone; spill another, and that location may have to be kept under guard for years.

Source of the flow chart reproduced on pp. 20-21 is the Atomic Industrial Forum, New York City.

LELE

APRIL 12, 1895



LOCOMOTIVE WORKS FORECAST ELECTRIC MOTOR OPERATION

NEW YORK, April 12—A large number of tools, cranes, etc., in the shops of the Baldwin Locomotive Works are now operated by electric power. It is estimated that within a year all the various tools will be driven by electric motors, either direct connected, or driving lines of shafting operating a group of tools.

Through the courtesy of the Baldwin Locomotive Works we print an engraving of a 100-ton electric crane operating in the erecting shop.

The generating plant from which the motors at present used in the shop are supplied is temporary. It consists of two 100 H.P. dyna-

Dateline 1895. Then, as now, American railroads were adopting new and better electrical tools for a more efficient operation. And, even in the '90's, Graybar already had over 25 years experience in supplying "everything electrical" to America's expanding transportation industry.

Today, you'll find well over 100,000 different electrical items listed in Graybar catalogs. And your Railroad Pocket List gives the addresses of over 130 Graybar offices and warehouses in a pattern of locations that means prompt deliveries of products bearing the names of America's leading manufacturers to railroads from coast-to-coast.

For tools – hand and power operated – in fact for everything electrical for your shops, call upon your nearby Graybar Railroad representative for assistance – he'll be glad to oblige.

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You Ought To Know...

On the work rules front, attention focused on union preparation for service of rules notices. ORC&B general chairmen met last week in Cedar Rapids, Ia.; BLE general chairmen will meet this week in Chicago. Meanwhile, Theodore Short, chairman of the Western Carriers' Conference Committee charged that a "smoke screen of misrepresentation" is being thrown around industry proposals to eliminate firemen from diesel power in freight and yard service. Removal of the firemen, he emphasized, would not apply to passenger service, would not result in one-man locomotive operation, would not impair safety of operation.

Negotiations on the non-ops' demand for wage increases totalling about 25 cents an hour will start this week in Canada. In the U.S., conference committee negotiations on operating brotherhoods' wage demands have deadlocked and all five cases have been referred to mediation. The BLF&E dispute was the last to go before the NMB.

Columbia University's transport session—an annual management symposium—is all set for Jan. 17-22, under the leadership of Professor Ernest Williams. Speakers include prominent educators, shippers and representatives from all transport media, railroaders on the list being Downing Jenks (Rock Island), John Kusik (C&O), Charles Baxter (Central Territory Railroads).

A Maine Potato Fund has been established by the Bangor & Aroostook. Each year, the road will earmark $5 for the fund for every carload of potatoes over and above 28,000 carloads. Proceeds will be devoted to research and promotion of the Maine potato. Potatoes are the BAR's largest source of revenue.

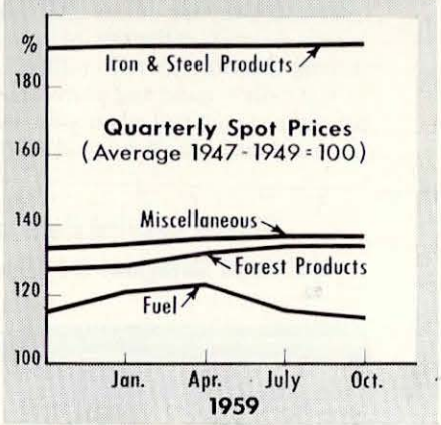
The ICC will expedite the case involving Georgia's undertaking to retain services of Seatrain Lines for Savannah. The state is asking that railroads be required to join in rail-water-rail rates on pulpboard which would be lower than recently-reduced rail rates on that commodity. ICC Chairman Tuggle last week sent Georgia Governor Vandiver a telegram saying the Commission would expedite the case by establishing "special rules of procedure to the extent legally feasible." Seatrain has served notice that its Savannah service will be discontinued at the end of this month.

Advance reservations, both Pullman and coach, already on Seaboard Air Line's books indicate a rise in Florida-bound travel volume this winter. General Passenger Traffic Manager J. R. Getty says this is a continuing year-by-year trend.

"Equitable" tax treatment for nonresidents who work in New York State has taken a new twist. Gov. Robert B. Meyner of New Jersey has suggested that the tax snarl might be worked out between his state and New York if New York "would be willing to give us relief by using some of the income tax money it collects in New Jersey to relieve the commuter railroad situation."

Nine months' net railway operating income for the Milwaukee Road totaled $9,502,413, not $2,486,449 as reported last week (p. 9). The $2,486,449 figure actually represents the road's net income for the period.

...And Watch



Rail employment dropped 1.41% below the previous month in October. Losses were registered in all categories of employment, according to the ICC's Bureau of Transport Economics and Statistics. Largest loss was registered among maintenance of way and structures employees (3.97%).

A locomotive chase developed recently when a diesel switcher in Jersey Central's Jersey City freight yard decided it wanted to see some more of the railroad. The runaway locomotive wasn't apprehended until it traveled 22 miles south sans crew, was halted by running a locomotive in front of it at slightly slower speed. An investigation is being conducted to determine how it got away.

James G. Shea, general public relations manager for Southern Pacific, has been named western regional vice president of the Public Relations Society of America. New officers were elected by PRSA at its annual meeting in Miami, Fla.

One passenger was killed and 103 injured in train and train-service accidents in September. That compared with 44 passenger fatalities and 151 injuries in September 1958. Eight railroad employees were killed on duty and 1,138 injured in September, compared with 20 deaths and 1,034 injuries in September 1958.

All the regulation in today's transport market isn't really needed, according to Earl D. Johnson, president of General Dynamics Corp. The economy, he notes, has always relied on competition as a self-regulating factor—and now "the time has come when all forms of transportation are in such competition that government regulation is not necessary. Let that force [competition] do the regulating and let's have only a minimum of government regulation."

A new $20-million rail line in Venezuela will be opened in December. The 16.7-mi Guanta-Naricual line will link the existing Barcelona-Ciudad Bolivar line with the steel and other industries of the State of Anzoategui.

HAYES Use the new cushion bumping post Type WP where posts are being knocked out. Guided by the rails but not attached to them this post absorbs impact by pushing ties in the ballast.

Hayes Track Appliance Co., Richmond, Indiana

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Power from Coal?...Here's How—

If America had remained a free-enterprise country—instead of having hit the skids into socialism as it has (especially in transportation)—there's little doubt that railroad electrification would now be going on, at an unprecedented rate.

This observation may seem paradoxical, since some existing electric lines have been converted to diesel operation, and some electrified passenger services have been entirely abandoned. The fact is, nevertheless, that potential opportunities for profitable electrification have greatly increased in recent years—both because of technological progress and the development of favorable load-factor conditions in the electric power industry.

•

But electrification requires the permanent investment of a lot of capital—and unlimited "investment" by government (largely uncompensated by users) in other forms of transportation has scared off private investment in railroad electrification. For such investment of private funds to be attractive, there must be promising prospects of traffic growth—not threats of traffic decline.

Let's consider some of the economic and technological conditions which would today favor electrification—if the clammy hand of socialist competition were to be removed from the railroads' throat. Take changes in signal systems, for instance, to meet the needs of power track return circuits. In the past, signal changes made necessary by electrification constituted a major item of cost. Where centralized traffic control is installed, signal systems are revised anyhow.

Again, commercial power distribution systems (60 cycles at, say, 25,000 volts potential) are now satisfactory for railroad traction. This has been made possible by the development of rectifiers for use on locomotives. Utility power systems have grown so large that a single-phase railroad load on them would no longer constitute a high percentage of their total load—hence would occasion no detrimental imbalance.

No other form of power can match electricity (from an overhead system) in its ability to provide economically for short peak power requirements. The electric locomotive is a motor only—not a power plant plus a motor. The diesel's superiority lies, not in operating expense, but in the fact that it conserves capital charges, because it requires no power distribution system. This superiority of the diesel is, of course, controlling —*so long as there's any doubt whether the power distribution system can be kept reasonably busy.* If traffic volume could be depended upon to remain relatively intense, or to grow, then electrification's superiority would come to the fore (for example, its greater simplicity in locomotives—hence, longer life and lower maintenance cost—and lower fuel cost per unit of effective power).

Moreover, the development of the rectifier presents the possibility of converting diesels now in railroad service into electric locomotives. The engines and generators might be replaced by rectifiers and control equipment.

A study involving such considerations as these was recently made for a heavy-traffic, heavy-grade section of an eastern railroad. It was summarized by H. C. Cross of the Westinghouse Electric International Company, at a recent New York meeting, under the auspices of the American Institute of Electrical Engineers. Mr. Cross's figures showed that the railroad's total investment under electric operation would be 21% more than for diesel operation. They also indicated that the return on new investment would be 12%.

•

Such a package as Mr. Cross presented would apparently apply, for the present at least, primarily to lines having heavy traffic in areas where electric power consumption is already so great that fluctuations in the railroad load would not be much of a problem.

Revival of railroad electrification would also occasion a substantial increase in the use of coal as railway fuel—a condition which, to quite a number of important railroads, would be an added incentive.

Technological and economic forces are working in the direction of the "automatic railroad" (or almost automatic, anyhow). And electrification fits into a system of automation better than independent power units do. But it is useless to expect really rational economic development of transportation—including railroads as well as other segments—as long as government persists in intervening haphazardly in the industry, and playing favorites (as it does) among the various kinds of transportation.

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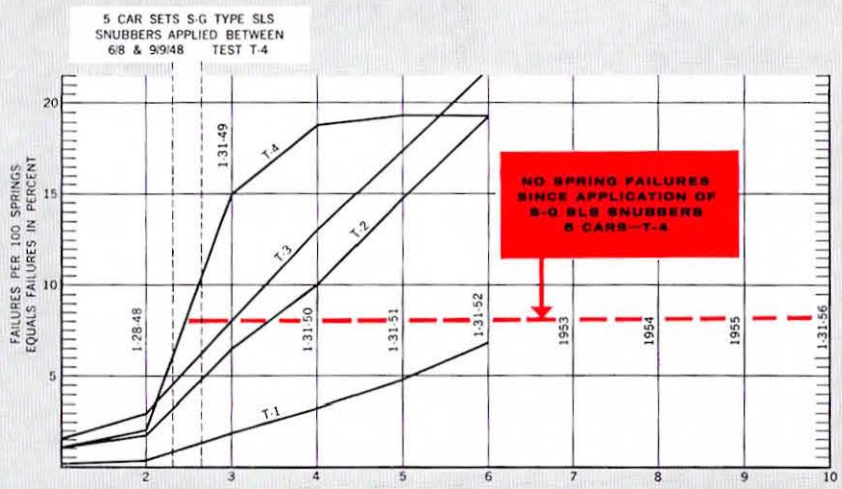

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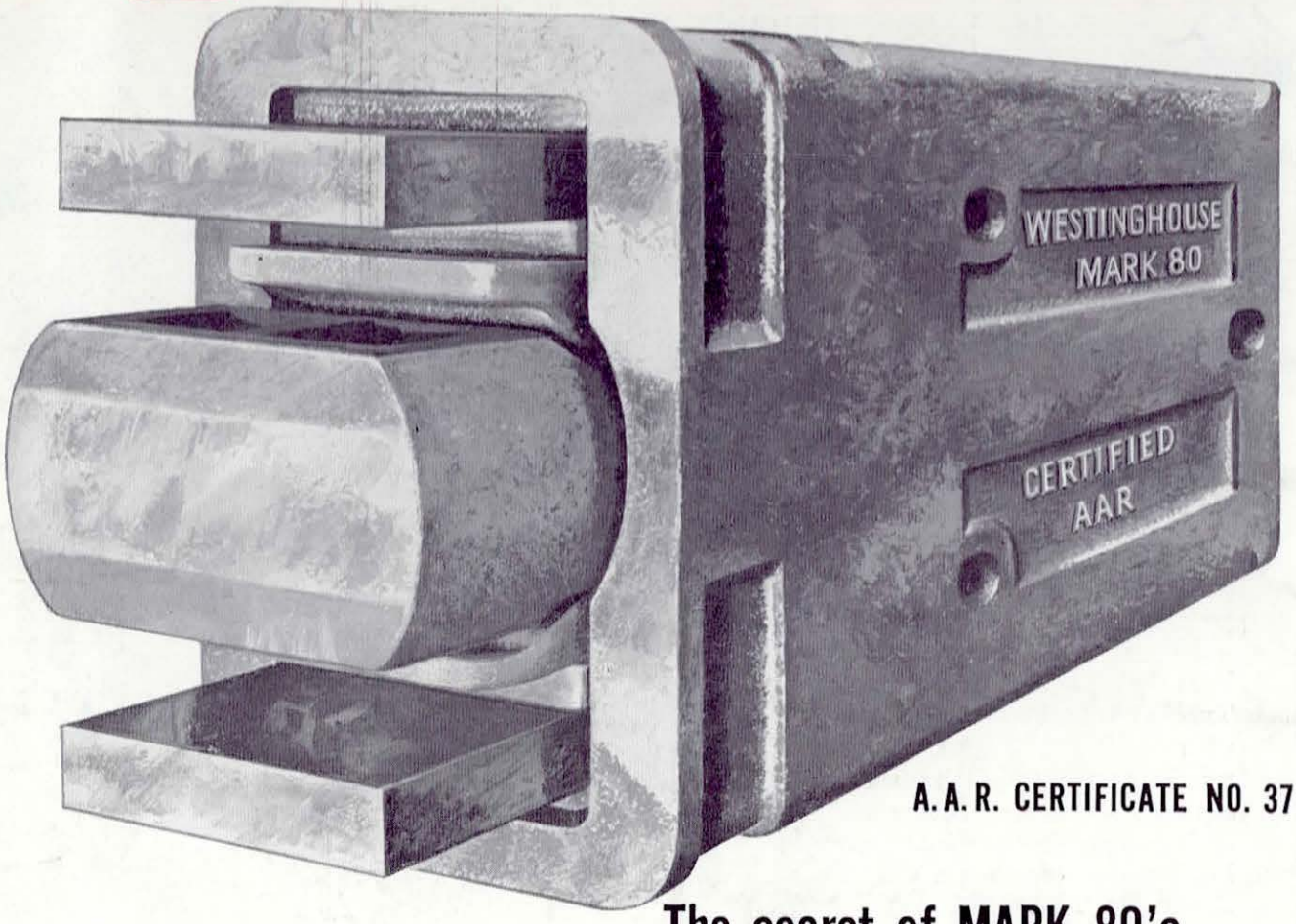

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